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Contents

Federal Register

Vol. 58, No. 124

Wednesday, June 30, 1993

Agricultural Marketing Service
RULES
Peanuts, domestically produced, 34863, 34864
PROPOSED RULES
Dairy products; grading, inspection, and standards:
Colby cheese, 34993
Whipped butter, 34937
Kiwifruit grown in California, 34940
Milk marketing orders:
Georgia, 34946
Onions grown in—
Idaho and Oregon, 34944

Agriculture Department
See Agricultural Marketing Service
See Animal and Plant Health Inspection Service
See Farmers Home Administration
See Federal Grain Inspection Service

Animal and Plant Health Inspection Service
NOTICES
Environmental statements; availability, etc.:
Genetically engineered organisms; field test permits—
Pseudomonas syringae, etc., 34985
Rice, etc., 34986
Veterinary biological products; production and establishment licenses, 34987

Centers for Disease Control and Prevention
NOTICES
Uranium conversion and enrichment workers; mortality patterns epidemiologic study; NIOSH meeting, 35006

Commerce Department
See Economic Development Administration
See International Trade Administration
See National Oceanic and Atmospheric Administration
NOTICES
Agency information collection activities under OMB review, 34988

Committee for the Implementation of Textile Agreements
NOTICES
Cotton, wool, and man-made textiles:
China, 34990
Costa Rica, 34991
Malaysia, 34991
Mexico, 34992
Illegal transshipments; new U.S. policy, 34993

Commodity Futures Trading Commission
NOTICES
Contract market proposals:
Chicago Mercantile Exchange, Inc.—
Australian dollar; rolling spot, 34993

Defense Department
See Navy Department

Economic Development Administration
NOTICES
Trade adjustment assistance eligibility determination petitions:
Sandvik Rock Tools, Inc., et al., 34988

Education Department
RULES
Educational research and improvement:
National diffusion network; program effectiveness panel, 35354
NOTICES
Grants and cooperative agreements; availability, etc.:
National Institute on Disability and Rehabilitation Research—
Rehabilitation research and training centers, 34994
Meetings:
National Assessment Governing Board, 34995

Energy Department
See Federal Energy Regulatory Commission
RULES
Acquisition regulations:
Management and operating contracts—
Facilities management, 34924

Environmental Protection Agency
RULES
Air programs:
Particulate matter (PM 10) prevention of significant deterioration; maximum allowable increases
Correction, 34903
Air quality implementation plans; approval and promulgation; various States:
California, 34904, 34906
Illinois, 34907
Massachusetts, 34908
Pennsylvania, 34911
Pesticides; tolerances in food, animal feeds, and raw agricultural commodities:
N,n-diethyl-2-(1-naphthalenyloxy)propionamide, 34913
Titanium dioxide, 34914
Superfund:
Lead metal, lead compounds, lead-containing hazardous wastes, and methyl isocyanate; reportable quantity adjustments, 35314
PROPOSED RULES
Air pollution control; new motor vehicles and engines:
Emission defect reporting requirements
Public workshop, 34970
Hazardous waste:
Wood surface protection processes; identification, listing, treatment, storage, and disposal, 34977
Pesticides; tolerances in food, animal feeds, and raw agricultural commodities:
Boric acid and its salts, etc., 34972
C.I. pigment violet no. 23, etc., 34973
Cyromazine, 34975
NOTICES
Agency information collection activities under OMB review, 35000
Pesticide registration, cancellation, etc.:
Kemira Biotech, 35001

Pesticides; emergency exemptions, etc.:
Triclopyr, etc., 35002

Equal Employment Opportunity Commission
NOTICES
Meetings; Sunshine Act, 35074

Executive Office of the President
See Trade Representative, Office of United States

Farmers Home Administration
RULES
Program regulations:
Federal statute of limitations—
Real estate title clearance and loan closing; correction, 34868
NOTICES
Environmental statements; availability, etc.:
Springhill subdivision project, WV, 34987

Federal Aviation Administration
RULES
Airworthiness directives:
Allied-Signal Inc., 34880
PROPOSED RULES
Airworthiness directives:
Twin Commander Aircraft Corp., 34950, 34952, 34955, 34957, 34959

Federal Communications Commission
RULES
Frequency allocations and radio treaty matters:
Mobile-satellite services, spectrum, 34920
PROPOSED RULES
Television broadcasting:
Cable Television Consumer Protection and Competition Act of 1992—
Direct broadcast satellite public service obligations; implementation, 34980
NOTICES
Public safety radio communications plans:
Virgin Islands, 35002

Federal Emergency Management Agency
RULES
Federal crime insurance program:
Availability; Tennessee jurisdiction list, 34919
NOTICES
Disaster and emergency areas:
Oklahoma, 35003

Federal Energy Regulatory Commission
NOTICES
Electric rate, small power production, and interlocking directorate filings, etc.:
Montaup Electric Co. et al., 34995
Applications, hearings, determinations, etc.:
Carnegie Natural Gas Co., 34996
East Tennessee Natural Gas Co., 34997
Granite State Gas Transmission, Inc., 34997
Great Bay Power Corp., 34998
McCormick, William T., Jr., 34998
Pacific Gas Transmission Co., 34998
Southern Natural Gas Co., 34998
Transcontinental Gas Pipe Line Corp., 34999
Western Area Power Administration, 34999
Williams Natural Gas Co., 35000
Williston Basin Interstate Pipeline Co., 35000

Federal Grain Inspection Service
NOTICES
Agency designation actions:
Illinois et al., 34893
Indiana et al., 34983
Nebraska, 34894
Texas, 34894

Federal Highway Administration
NOTICES
Environmental statements; notice of intent:
Allegheny County, PA, 35067

Federal Housing Finance Board
NOTICES
Meetings; Sunshine Act, 35074

Federal Maritime Commission
NOTICES
Complaints filed:
Worldlink Logistics, Inc., et al., 35003
Investigations, hearings, petitions, etc.:
World Tariff Services, Inc., et al., 35003

Federal Reserve System
NOTICES
Applications, hearings, determinations, etc.:
Fleet Financial Group, Inc., et al., 35003
Royal Bank of Scotland, plc; correction, 35004
Starner, Ray J., et al., 35004
Wilmington Trust Co., 35005

Fish and Wildlife Service
RULES
Endangered and threatened species:
Carolina heelsplitter, 34926
PROPOSED RULES
Migratory bird hunting:
Shotshells; length, size, and coating restrictions, 35332

Food and Drug Administration
PROPOSED RULES
Biological products:
Blood and blood components; consignee notification of increased HIV infection transmission risk, 34962
NOTICES
Debarment orders:
Prasad, Kumar, 35006

General Services Administration
NOTICES
Grants and cooperative agreements; availability, etc.:
Small business competitiveness demonstration program, 35005

Health and Human Services Department
See Centers for Disease Control and Prevention
See Food and Drug Administration
See Health Care Financing Administration
See Health Resources and Services Administration
See Indian Health Service
See National Institutes of Health
See Social Security Administration

Health Care Financing Administration
RULES
Medicare:
Customized wheelchairs; payment, 34916

PROPOSED RULES
Medicare:
HIV infectious blood and blood products; hospital standard, 34977
NOTICES
Medicaid and medicare:
Joint Commission on Accreditation of Health Care; home care organization standards recognition, 35007
Medicare:
SELECT insurance policies; revised designation of States, 35017

Health Resources and Services Administration
NOTICES
Grants and cooperative agreements; availability, etc.:
Family medicine department establishments, 35019
Nursing special projects, 35020

Housing and Urban Development Department
RULES
Mortgage and loan insurance programs:
Multifamily mortgages; nonjudicial foreclosure, 34882

Indian Health Service
NOTICES
Grants and cooperative agreements; availability, etc.:
Indian health service research program, 35021
Nursing recruitment program for Indians; correction, 35025

Interior Department
See Fish and Wildlife Service
See Land Management Bureau

Internal Revenue Service
RULES
Income taxes:
Foreign earned income and housing cost amounts; valid election exclusion; extension, 34885
Procedure and administration:
Elections and relief applications; extension, 34886
PROPOSED RULES
Income taxes:
Foreign deferred compensation plans; deductions and reductions in earnings and profits (or accumulated profits)—
Correction, 34970

International Trade Administration
NOTICES
Export trade certificates of review, 34989, 34990

International Trade Commission
NOTICES
Import investigations:
Circuit board testers, 35041
Commercial food portioners, components, including software, and process, 35041
Integrated circuit telecommunication chips and products containing same, including dialing apparatus, 35042
Magnetic switches for coaxial transmission lines and products containing same, 35043
Portable electric typewriters from—
Singapore, 35043
Silicon carbide from—
China, 35044
Stainless steel plate from Sweden, 35044
Senior Executive Service:
Performance Review Boards; membership, 35046

Interstate Commerce Commission
NOTICES
Environmental statements; availability, etc.:
Consolidated Rail Corp., 35046
Household goods transportation in interstate or foreign commerce; publication availability, 35047

Justice Department
NOTICES
Pollution control; consent judgments:
Schmalz, Gregory A., et al., 35047

Labor Department
See Occupational Safety and Health Administration
NOTICES
Railroad or airline industries worker-management relations; hearing, 35048

Land Management Bureau
NOTICES
Alaska Native claims selection:
Akhiok-Kaguyak, Inc., 35037
Arctic Slope Regional Corp., 35037
Realty actions; sales, leases, etc.:
Nevada, 35037, 35038, 35039
Oregon, 35039
Withdrawals and reservation of lands:
Idaho, 35040

Maritime Administration
NOTICES
Applications, hearings, determinations, etc.:
Lykes Brothers Steamship Co., Inc., 35067

National Credit Union Administration
RULES
Credit unions:
Investment and deposit authority, 34868

National Highway Traffic Safety Administration
NOTICES
Motor vehicle safety standards:
Nonconforming vehicles—
Importation eligibility; determinations, 35068, 35069, 35070

National Institutes of Health
NOTICES
Meetings:
National Heart, Lung, and Blood Institute, 35024
National Institute of Diabetes and Digestive and Kidney Diseases, 35023
National Institute of Environmental Health Sciences, 35024
National Institute of Neurological Disorders and Stroke, 35024
National Institute on Aging, 35023
National Institute on Deafness and Other Communication Disorders, 35023
National Institute on Drug Abuse, 35023
Research Grants Division Behavioral and Neurosciences Special Emphasis Panel, 35025

National Oceanic and Atmospheric Administration
RULES
Fishery conservation and management:
Bering Sea and Aleutian Islands groundfish, 34932

PROPOSED RULES
Fishery conservation and management:
Reef fish fishery of Puerto Rico and Virgin Islands, 34982
Rulemaking petitions:
Center for Marine Conservation, 34981
Tuna, Atlantic bluefin fisheries, 34981

Navy Department
NOTICES
Environmental statements; availability, etc.:
Naval Air Station Chase Field, TX; disposal and reuse decisions, 34994

Nuclear Regulatory Commission
PROPOSED RULES
Production and utilization facilities; domestic licensing:
Prematurely shut down power reactors licensees; spent fuel management and funding plans, 34947
NOTICES
Meetings:
Compatibility of agreement State regulatory programs; public workshop, 35050
Nuclear waste and spent fuel shipments:
Governors' designees receiving advance notification; list, 35050
Petitions; Director's decisions:
Boston Edison Co., 35053
Applications, hearings, determinations, etc.:
Agriculture Department, 35053
Nebraska Public Power District, 35056
Portland General Electric Co. et al., 35058

Occupational Safety and Health Administration
RULES
Construction safety and health standards:
General industry safety and health standards applicable to construction work; incorporation, 35076
General industry and construction safety standards; amendments, 35306
Safety and health standards:
Air contaminants, 35338
NOTICES
Grants and cooperative agreements; availability, etc.:
Target training program, 35048

Office of United States Trade Representative
See Trade Representative, Office of United States

Personnel Management Office
NOTICES
Agency information collection activities under OMB review, 35059

Postal Service
RULES
Domestic Mail Manual:
Restructuring and revision, 34887

Public Health Service
See Centers for Disease Control and Prevention
See Food and Drug Administration
See Health Resources and Services Administration
See Indian Health Service
See National Institutes of Health

Railroad Retirement Board
NOTICES
Agency information collection activities under OMB review, 35059

Resolution Trust Corporation
RULES
Program Fraud Civil Remedies Act; implementation, 34870

Securities and Exchange Commission
NOTICES
Meetings; Sunshine Act, 35074
Self-regulatory organizations; proposed rule changes:
American Stock Exchange, Inc., 35060
Chicago Board Options Exchange, Inc., 35060
Self-regulatory organizations; unlisted trading privileges:
Midwest Stock Exchange, Inc., 35061
Applications, hearings, determinations, etc.:
Guardian Insurance & Annuity Co., Inc., 35061
Hudson Fund, Inc., 35064
Wilson Fund, 35064

Small Business Administration
NOTICES
Intergovernmental review of agency programs and activities, 35065
Organization, functions, and authority delegations:
Associate Deputy Administrator for Business Development et al., 35067

Social Security Administration
NOTICES
Privacy Act:
Systems of records, 35025

Textile Agreements Implementation Committee
See Committee for the Implementation of Textile Agreements

Trade Representative, Office of United States
NOTICES
Meetings:
Trade Policy and Negotiations Advisory Committee, 35073

Transportation Department
See Federal Aviation Administration
See Federal Highway Administration
See Maritime Administration
See National Highway Traffic Safety Administration
RULES
Practice and procedure:
Scheduled airline operations applications; DOT decisionmaker, 34882

Treasury Department
See Internal Revenue Service
NOTICES
Agency information collection activities under OMB review, 35071
Committees; establishment, renewal, termination, etc.:
Public Securities Association Treasury Borrowing Committee, 35072

Separate Parts in This Issue

Part II
Department of Labor, Occupational Safety and Health Administration, 35076

Part III
Environmental Protection Agency, 35314 Part IV

Department of the Interior, Fish and Wildlife Service, 35312

Part V
Department of Labor, Occupational Safety and Health Administration, 35338

Part VI
Department of Education, 35354

Reader Aids
Additional information, including a list of public laws, telephone numbers, and finding aids, appears in the Reader Aids section at the end of this issue.

Electronic Bulletin Board
Free Electronic Bulletin Board service for Public Law numbers, Federal Register finding aids, and a list of Clinton Administration officials is available on 202–275–1538 or 275–0920.

CFR PARTS AFFECTED IN THIS ISSUE

A cumulative list of the parts affected this month can be found in the Reader Aids section at the end of this issue.

7 CFR
997.....34863
998.....34865
1927.....34868

Proposed Rules:
58 (2 documents).....34933, 34937
920.....34940
958.....34944
1007.....34946

10 CFR

Proposed Rules:
50.....34947

12 CFR
703.....34868
1626.....34870

14 CFR
39.....34880
302.....34882

Proposed Rules:
39 (5 documents).....34950, 34952, 34955, 34957, 34959

21 CFR

Proposed Rules:
606.....34962
610.....34962

24 CFR
27.....34882

26 CFR
1.....34885
301.....34886

Proposed Rules:
1.....34970

29 CFR
1910.....35338, 35306
1926.....35076, 35306

34 CFR
785.....35354
786.....35354
787.....35354

39 CFR
111.....34887

40 CFR
51.....34903
52 (6 documents).....34903, 34904, 34906, 34907, 34908, 34911
117.....35314
180 (2 documents).....34913, 34914
302.....35314
355.....35314

Proposed Rules:
85.....34970
180 (3 documents).....34972, 34973, 34975
260.....34977
261.....34977
264.....34977
265.....34977
270.....34977
302.....34977

42 CFR
414.....34916

Proposed Rules:
482.....34977

44 CFR
81.....34919

47 CFR
2.....34920

Proposed Rules:
76.....34980

48 CFR
970.....34924

50 CFR
17.....34926
675.....34932

Proposed Rules:
20.....34332
285 (2 documents).....34981
630.....34981
669.....34982

Rules and Regulations

Federal Register
Vol. 58, No. 124
Wednesday, June 30, 1993

This section of the FEDERAL REGISTER contains regulatory documents having general applicability and legal effect, most of which are keyed to and codified in the Code of Federal Regulations, which is published under 50 titles pursuant to 44 U.S.C. 1510.

The Code of Federal Regulations is sold by the Superintendent of Documents. Prices of new books are listed in the first FEDERAL REGISTER issue of each week.

DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service

7 CFR Part 997

[Docket No. FV93–997–1IFR]

Changes in the Provisions Regulating the Quality of Domestically Produced Peanuts Not Subject to the Peanut Marketing Agreement

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Interim final rule with request for comments.

SUMMARY: This interim final rule changes the outgoing quality regulation for 1993 and future crop peanuts which regulates the quality of peanuts handled by persons who are not signatory to the Peanut Marketing Agreement. The outgoing regulation is changed to allow shipment, without positive lot identification, of lots which are reconstituted by a handler at the request of a buyer and to require that records be kept on such shipments. This action will provide increased opportunity for handlers to meet the requests of their buyers and, thus, facilitate the movement of peanuts to market. This change is intended to bring the quality requirements into conformity with those specified in the agreement.

DATES: This interim final rule is effective June 30, 1993. Comments received by July 30, 1993 will be considered prior to finalization of the rule.

ADDRESSES: Interested persons are invited to submit written comments concerning this rule. Comments must be sent in triplicate to the Docket Clerk, Fruit and Vegetable Division, AMS, USDA, PO Box 96456, room 2523–S, Washington, DC 20090–6456, or FAX (202) 720–5698. Comments should reference the docket number and the date and page number of this issue of the **Federal Register** and will be available for public inspection in the Office of the Docket Clerk during regular business hours.

FOR FURTHER INFORMATION CONTACT: Richard Lower, Marketing Order Administration Branch, Fruit and Vegetable Division, AMS, USDA, PO Box 96456, room 2523–S, Washington, DC 20090–6456, telephone (202) 720–2020, FAX (202) 720–5698.

SUPPLEMENTARY INFORMATION: This interim final rule is issued pursuant to requirements of the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674), hereinafter referred to as the "Act."

This rule has been reviewed by the Department of Agriculture (Department) in accordance with Departmental Regulation 1512–1 and the criteria contained in Executive Order 12291 and has been determined to be a "non-major" rule.

This rule has been reviewed under Executive Order 12778, Civil Justice Reform. This interim final rule will not preempt any State or local laws, regulations, or policies, unless they present an irreconcilable conflict with this rule. This action is not intended to have retroactive effect. There are no administrative procedures which must be exhausted prior to any judicial challenge to the provisions of this rule.

Pursuant to requirements set forth in the Regulatory Flexibility Act (RFA), the Administrator of the Agricultural Marketing Service (AMS) has considered the economic impact of this rule on small entities. The purpose of the RFA is to fit regulatory actions to the scale of business subject to such actions in order that small businesses will not be unduly or disproportionately burdened.

There are approximately 25 handlers of peanuts who have not signed the agreement and thus, are subject to the regulations contained herein. Small agricultural service firms are defined by the Small Business Administration (13 CFR 121.601) as those whose annual receipts are less than $3,500,000. It is estimated that most of the handlers are small entities. Most producers doing business with these handlers are also small entities. Small agricultural producers have been defined as those having annual receipts of less than $500,000.

Aflatoxin was found in peanuts in the mid-1960's, the domestic peanut industry has sought to minimize aflatoxin contamination in peanuts and peanut products. Public Law 101–220, enacted December 12, 1989, amended section 608(b) of the Act to require that all peanuts handled by persons who have not entered into the agreement (non-signers) be subject to quality and inspection requirements to the same extent and manner as are required under the agreement. It is estimated that 5 to 10 percent of the domestic peanut crop is marketed by non-signer handlers and the remainder of the crop is handled by signatory handlers.

Under the non-signer provisions, no peanuts may be sold or otherwise disposed of for human consumption if the peanuts fail to meet the quality requirements of the agreement. Regulations to implement Public Law 101–220 were issued and made effective on December 4, 1990 (55 FR 49980) and amended on October 31, 1991 (56 FR 55988). Violation of those regulations may result in a penalty in the form of an assessment by the Secretary equal to 140 percent of the support price for quota peanuts. The support price for quota peanuts is determined under section 108b of the Agricultural Act of 1949 (7 U.S.C. 1445c–2) for the crop year during which the violation occurs.

The intent of Public Law 101–220 and the objective of the agreement is to insure that only wholesome peanuts of good quality enter edible market channels. Under the non-signer and agreement regulatory provisions, farmers' stock peanuts with visible *Aspergillus flavus* mold (the principal source of aflatoxin) are required to be diverted to non-edible uses. Each lot of shelled peanuts, destined for edible channels, must be officially sampled and chemically tested for aflatoxin by the Department or in other laboratories listed in the regulations. Inspection and chemical analysis programs are administered by the Department.

In 1992, the three major peanut production areas produced approximately 4.28 billion pounds of peanuts, a 13 percent decrease from 1991. The 1992 crop value is $1.3 billion, down 8 percent from 1991.

This interim final rule amends paragraph (d) Identification, of the outgoing quality regulation to allow for shipment, without Positive Lot

Identification (PLI), of inshell and shelled, edible quality peanuts which are reconstituted after processing and PLI by a handler, at the request of a buyer

The outgoing quality regulation requires that peanut lots be PLI when shipped by the handler. Handlers have traditionally maintained PLI until the lot is received by a buyer or other independent entities in the handling process such as second handlers, independent cold storage warehouse operators, blanchers or remillers. Under current provisions, the handler PLI requirement, at the time of shipment, puts handlers at a competitive disadvantage with such entities. Such entities may provide additional processing or change containers of the lot, at the request of the buyer. However, because such lots are no longer under the purview of the non-signer provisions, the entities do not have to maintain PLI, and thus do not charge buyers the extra costs for obtaining a Federal or Federal-State Inspection Service transfer certificate or a second positive lot inspection of such reconstituted lots.

This rulemaking extends an action approved beginning with the 1992 crop year when the Department determined (57 FR 39112, August 28, 1992) that non-signer handlers may commingle PLI lots, at the request of a buyer, and ship such lots without inspection recertification. This action permits non-signer handlers to provide additional processing services after the initial processing and PLI, without incurring recertification costs.

To safeguard normal inspection procedures, a lot which does not receive a new PLI or transfer certificate after reconstitution and/or commingling is not eligible for an appeal inspection. Loss of the handler's right to an appeal inspection on a reconstituted and/or commingled lot should not represent a significant concern as lots that pass quality inspection and aflatoxin testing normally do not require an appeal inspection.

Non-signer handlers are to be responsible for maintaining records of the quantities of peanuts so reconstituted and making such records available to the Department upon request.

The change is effected by revising § 997.30(d). A similar change has been made in the outgoing quality regulation of the agreement, effective for the 1993–94 crop year.

This action will provide increased opportunity for handlers to meet the requests of their buyers and, thus facilitate the movement of peanuts to market. There will be no adverse impact from this change on the outgoing quality regulation of the non-signer provisions.

There are no changes applicable to the incoming quality requirements, therefore, the incoming quality regulation applicable to 1992–93 crop peanuts continues to be effective for 1993–94 crop peanuts.

Based on available information, the Administrator of the AMS has determined that the issuance of this interim final rule will not have a significant economic impact on a substantial number of small entities.

The information collection requirements that are contained in the sections of these regulations have been previously approved by the Office of Management and Budget (OMB) and have been assigned OMB No. 0581–0163.

After consideration of all available information, it is found that this action will tend to effectuate the declared policy of the Act.

Pursuant to 5 U.S.C. 553, it is also found and determined, upon good cause, that it is impractical, unnecessary and contrary to the public interest to give preliminary notice prior to putting this rule into effect, and that good cause exists for not postponing the effective date of this action until 30 days after publication in the **Federal Register** because: (1) This action relaxes restrictions on peanut handlers not subject to the agreement; (2) the new crop year begins on July 1, 1993, and handlers need to know the regulations applicable to handling the 1993 peanut crop; (3) this action will ease the movement of peanuts to market; (4) this action brings the quality requirements under part 997 into conformity with those under the agreement, as required by the Act; and (5) this action provides a 30-day comment period, and any comments received will be considered prior to finalization of this rule.

List of Subjects in 7 CFR Part 997

Food grades and standards, Peanuts, Reporting and recordkeeping requirements.

For the reasons set forth in the preamble, 7 CFR part 997 is amended as follows:

Note: This section will be published in the annual Code of Federal Regulations.

PART 997—PROVISIONS REGULATING THE QUALITY OF DOMESTICALLY PRODUCED PEANUTS HANDLED BY PERSONS NOT SUBJECT TO THE PEANUT MARKETING AGREEMENT

1. The authority citation for 7 CFR part 997 is revised to read as follows:

Authority: Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674.

2. Section 997.30 is amended by revising paragraph (d) to read as follows:

§ 997.30 Outgoing regulation.

* * * * *

(d) *Identification.* Each lot of shelled or cleaned inshell peanuts shall be identified by positive lot identification procedures prior to being shipped or otherwise disposed of. For the purpose of this regulation, "positive lot identification" of a lot of shelled or inshell peanuts is a means of relating the inspection certificate to the lot which has been inspected so that there can be no doubt that the peanuts are the same ones described on the inspection certificate. The crop year that is shown on the positive lot identification tags, or other means of positive lot identification shall accurately describe the crop year in which the peanuts in the lot were produced. Such procedure on bagged peanuts shall consist of attaching a lot numbered tag bearing the official stamp of the Federal or Federal-State Inspection Service to each filled bag in the lot. The tag shall be sewed (machine sewed if shelled peanuts) into the closure of the bag except that in plastic bags the tag shall be inserted prior to sealing so that the official stamp is visible. Any peanuts moved in bulk or bulk bins shall have their lot identity maintained by sealing the conveyance and if in other containers by other means acceptable to the Federal or Federal-State Inspection Service. All lots of shelled or cleaned inshell peanuts shall be handled, stored, and shipped under positive lot identification procedures, except those lots which have been reconstituted and/or commingled at the request of the receiver. All such reconstituted and/or commingled lots will no longer be considered positive lot identified and, therefore, no longer be eligible for appeal inspection. Handler shall keep and maintain records of the quantities involved in each reconstituting and/or commingling procedure, whether in single or multiple lots, and such records shall be available to the Division on request.

* * * * *

Dated: June 23, 1993.

Robert C. Keeney,

Deputy Director, Fruit and Vegetable Division.

[FR Doc. 93–15275 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–02–P

7 CFR Part 998

[Docket No. FV93–998–2IFR]

Amending Requirements Established Under Marketing Agreement No. 146 Regulating the Quality of Domestically Produced Peanuts for 1993 Crop Peanuts

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Interim final rule with request for comments.

SUMMARY: This interim final rule changes the outgoing quality regulation to: (1) Allow shipment, without positive lot identification, of lots which are reconstituted after initial inspection and certification by a handler at the request of a buyer (Such lots are not eligible for indemnification claims or appeal inspection and handlers must maintain records on such shipments.); and (2) strengthen the control of the movement of out-of-grade lots of peanuts, and peanuts derived from the blanching and milling of such lots, by the Peanut Administrative Committee (Committee). The terms and conditions of indemnification also are amended to clarify the deadline for submitting indemnification claims, to identify documentation needed to process indemnification claims, and to provide consistency with amended quality regulations. These Committee recommendations: (1) Provide increased opportunities for handlers to meet the requests of their buyers and, thus, facilitate the movement of peanuts to market; (2) assure the proper handling of out-of-grade peanut lots regulated under provisions of the agreement; and (3) clarify regulations and reporting requirements to assist the Committee in administering the indemnification program.

DATES: This interim final rule is effective June 30, 1993. Comments received by July 30, 1993 will be considered prior to finalization of the rule.

ADDRESSES: Interested persons are invited to submit written comments concerning this rule. Comments must be sent in triplicate to the Docket Clerk, Fruit and Vegetable Division, AMS, USDA, P.O. Box 96456, room 2523–South, Washington, DC 20090–6456, or FAX (202) 720–5698. Comments should reference the docket number and the date and page number of this issue of the **Federal Register**. Comments received will be available for public inspection in the Office of the Docket Clerk during regular business hours.

FOR FURTHER INFORMATION CONTACT: John Toth, Southeastern Marketing Field Office, P.O. Box 2276, Winter Haven, Florida 33883–2276, telephone (813) 299–4770, FAX (813) 299–5169 or Jim Wendland, Marketing Order Administration Branch, Fruit and Vegetable Division, AMS, USDA, P.O. Box 96456, room 2523–S, Washington, DC 20090–6456, telephone (202) 720–2170, FAX (202) 720–5698.

SUPPLEMENTARY INFORMATION: This rule is issued pursuant to Marketing Agreement No. 146 (7 CFR part 998), regulating the quality of domestically produced peanuts, hereinafter referred to as the agreement. This agreement is effective under the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674) (the Act).

This rule has been reviewed by the Department of Agriculture (Department) in accordance with Departmental Regulation 1512–1 and the criteria contained in Executive Order 12291 and has been determined to be a "non-major" rule.

This rule has been reviewed under Executive Order 12778, Civil Justice Reform. This interim final rule will not preempt any State or local laws, regulations, or policies, unless they present an irreconcilable conflict with this rule. This action is not intended to have retroactive effect. There are no administrative procedures which must be exhausted prior to any judicial challenge to the provisions of this rule.

Pursuant to requirements set forth in the Regulatory Flexibility Act (RFA), the Administrator of the Agricultural Marketing Service (AMS) has considered the economic impact of this action on small entities.

The purpose of the RFA is to fit regulatory actions to the scale of business subject to such actions in order that small businesses will not be unduly or disproportionately burdened.

There are about 70 handlers of peanuts subject to regulation under the agreement, and there are about 47,000 peanut growers in the 16 States covered under the program. Small agricultural service firms are defined by the Small Business Administration (13 CFR 121.601) as those whose annual receipts are less than $3,500,000 and small agricultural producers have been defined as those having annual receipts of less than $500,000. Some of the handlers signatory to the agreement are small entities, and a majority of the growers may be classified as small entities.

In 1992, the three major peanut production areas covered under the agreement produced approximately 4.28 billion pounds of peanuts, a 13 percent decrease from 1991. The 1992 crop value is $1.3 billion, down 8 percent from 1991.

The objective of the agreement, in place since 1965, is to ensure that only wholesome peanuts enter edible market channels. About 70 percent of U.S. shellers (handlers), handling approximately 90 percent of the crop, have voluntarily signed the agreement. Under the agreement, farmers' stock peanuts with visible *Aspergillus flavus* mold (the principal source of aflatoxin) are required to be diverted to non-edible uses. Each lot of milled peanuts must be sampled and the samples chemically analyzed for aflatoxin contamination. A sheller who has complied with these requirements may be eligible for indemnification of losses if the peanuts test positive to aflatoxin. Indemnification and administrative costs are paid by assessments levied on handlers signatory to the agreement.

The Committee met on March 24 and 25, 1993, and unanimously recommended changes to § 998.200 *Outgoing quality regulation* and § 998.300 *Terms and conditions of indemnification—1993 crop peanuts.*

After considerable discussion, the Committee recommended amendment of paragraph (d) *Identification* of the outgoing quality regulations to allow for shipment, without Positive Lot Identification (PLI), of inshell and shelled, edible quality peanuts which are reconstituted after processing and PLI by a handler, at the request of a buyer.

The outgoing quality regulation requires that peanut lots be PLI when shipped by the handler. Handlers have traditionally maintained PLI until the lot is received by a buyer or another, independent entity in the handling process such as second handlers and independent cold storage warehouses. The Committee believes the PLI requirement for handlers, at the time of shipment, puts handlers at a competitive disadvantage with such second handlers or similar entities, as well as with blanchers and remillers. Such entities may provide additional processing or change containers of the lot, at the request of the buyer. However, because such lots are no longer under purview of the regulations (and the control of the handler), the entities do not have to maintain PLI, and thus, do not charge buyers the extra costs for

obtaining a Federal or Federal-State Inspection Service (Inspection Service) transfer certificate or a second positive lot inspection.

This rulemaking action also extends an action implemented last year (57 FR 34061, August 3, 1992) that allows handlers to commingle PLI lots, at the request of buyers, and ship such lots without reinspection and recertification. This action permits handlers to provide additional processing services after the initial processing, inspection and PLI, without incurring recertification costs.

To safeguard the indemnification program and normal inspection procedures, the Committee recommended that lots which do not receive a new PLI or transfer certificate after reconstitution and/or commingling not be eligible for indemnification claims or for appeal inspection. Loss of the handler's right to indemnification claims and appeal inspections on reconstituted and/or commingled lots should not represent a significant concern to handlers as lots that pass quality inspection and aflatoxin testing are not eligible for indemnification and normally do not require an appeal inspection.

The Committee also recommended that handlers be responsible for maintaining records of the quantities of peanuts so reconstituted and making such records available to the Committee upon request.

The second Committee recommendation is designed to strengthen the control of the movement of handlers' out-of-grade lots sent for blanching and remilling under provisions specified in paragraphs (h)(2) (blanching) and (h)(4) (remilling) of the outgoing quality regulations. The Committee made this recommendation to assure the proper handling of peanut lots subject to the program's outgoing quality regulations.

Paragraph (h)(2) applies, in part, to handlers' out-of-grade lots which are sent to blanching for further processing. Residual peanuts resulting from the blanching process must be either returned to the handler, or, at the handler's instruction, disposed of by the blancher to crushing or inedible export outlets. The existing text of paragraph (h)(2) is amended to require that the handler receive authorization from the Committee prior to movement of such lots to a blancher and that the residual lots, when so disposed, shall be positive lot identified.

Because current regulations do not reference all acceptable inedible outlets, the Committee also recommended that acceptable disposition outlets be specified in paragraph (h)(2). Such acceptable outlets are other handlers who are crushers or exporters, crushers who are not handlers but are approved by the Committee, and Committee approved blanchers.

Paragraph (h)(4) applies, in part, to handlers' residual lots resulting from remilling. The Committee recommended that the amended text of (h)(4) read the same as that recommended for paragraph (h)(2).

In addition to changes in paragraphs (h)(2) and (h)(4) of the outgoing quality regulation, the Committee recommended, for consistency purposes, adding a new subparagraph (p)(2) to § 998.300 *Terms and Conditions for Indemnification*. This addition identifies paragraphs (h)(2) and (h)(4) as paragraphs in the outgoing quality regulation that handlers must comply with to be eligible to receive indemnification payments.

The Committee unanimously recommended amending paragraph (l) of § 988.300 *Terms and Conditions of Indemnification* to provide for the more timely receipt of indemnification claim documents and to specify the documentation needed by the Committee to process such claims. The Committee reported that incomplete indemnification claim requests are occasionally received on or just after the November 1 deadline (following the crop year). Such late, incomplete claims become an extra burden on Committee personnel and may result in the claim not being processed and paid by the December 31 deadline following the crop year. Thus, the Committee recommended that the regulations clarify that claim requests may be received by mail or facsimile up to the close of business on November 1 and, also specify the documents needed. The documents are: (1) PAC–5 Handlers's Request for Rejection (signed and executed); (2) the valid grade inspection certificate covering the lot; and (3) the lab certificate showing the aflatoxin assay results which caused the lot's rejection. This revision of paragraph (l) does not represent new reporting requirements. The revised paragraph should help assure that claim payments are made by the established deadline, thus benefiting handlers.

Paragraphs (z) (1) through (7) of § 998.300 specify claim procedures and payment schedules based on the number of indemnification claims received by the Committee. The Committee recommended continuing for the 1993 crop year, the same procedures and payment schedules in effect for the 1992 terms and conditions. The Committee also recommended continuing for the 1993 crop year, the indemnification cap of $9,000,000, with $5,000,000 of insurance coverage that was in effect for the 1992 crop year.

Changes are also made to section headings of § 998.100 *Incoming quality regulation*, § 998.200 *Outgoing quality regulation* and § 998.300 *Terms and conditions of indemnification* to make those regulations applicable to the 1993 crop year.

Based on the above, the Administrator of the AMS has determined that this interim final rule will not have a significant economic impact on a substantial number of small entities.

Written comments, timely received, in response to this action will be considered before finalization of this rule.

The information collection requirements that are contained in these regulations have been previously approved by the Office of Management and Budget (OMB) and have been assigned OMB No. 0581–0067.

After consideration of the Committee's recommendation and all relevant information presented, it is found that the changes in the outgoing quality regulation and terms and conditions of indemnification, as set forth in this interim final rule, will tend to effectuate the declared policy of the Act.

Pursuant to 5 U.S.C. 553, it is also found and determined, upon good cause, that it is impracticable, unnecessary and contrary to the public interest to give preliminary notice prior to putting this rule into effect, and that good cause exists for not postponing the effective date of this action until 30 days after publication in the **Federal Register** because: (1) This action, in part, relaxes requirements currently in effect for peanut handlers who are signatory to the agreement; (2) this action should be in effect as soon as possible, because the 1993 crop year begins July 1, 1993 and handlers need to know regulations applicable to handling the 1993 crop; and (3) this action provides a 30-day comment period, and any comments received will be considered prior to finalization of this rule.

List of Subjects in 7 CFR Part 998

Marketing agreements, Peanuts, Reporting and recordkeeping requirements.

For the reasons set forth in the preamble, 7 CFR part 998 is amended as follows:

PART 998—MARKETING AGREEMENT REGULATING THE QUALITY OF DOMESTICALLY PRODUCED PEANUTS

1. The authority citation for 7 CFR part 998 continues to read as follows:

Authority: Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674.

2. Section 998.100 is amended by revising the section heading to read as follows:

§ 998.100 Incoming quality regulation—1993 crop peanuts.

3. Section 998.200 is amended by revising the section heading, revising paragraph (d), and revising paragraphs (h)(2) and (h)(4) to read as follows:

§ 998.200 Outgoing quality regulation—1993 crop peanuts.

* * * * *

(d) *Identification.* Each lot of shelled or cleaned inshell peanuts shall be identified by positive lot identification procedures prior to being shipped or otherwise disposed of. For the purpose of this regulation, "positive lot identification" of a lot of shelled or inshell peanuts is a means of relating the inspection certificate to the lot which has been inspected so that there can be no doubt that the peanuts are the same ones described on the inspection certificate. The crop year that is shown on the positive lot identification tags, or other means of positive lot identification shall accurately describe the crop year in which the peanuts in the lot were produced. Such procedure on bagged peanuts shall consist of attaching a lot numbered tag bearing the official stamp of the Federal or Federal-State Inspection Service to each filled bag in the lot. The tag shall be sewed (machine sewed if shelled peanuts) into the closure of the bag except that in plastic bags the tag shall be inserted prior to sealing so that the official stamp is visible. Any peanuts moved in bulk or bulk bins shall have their lot identity maintained by sealing the conveyance and if in other containers by other means acceptable to the Federal or Federal-State Inspection Service and to the Committee. All lots of shelled or cleaned inshell peanuts shall be handled, stored, and shipped under positive lot identification procedures, except those lots which have been reconstituted and/or commingled at the request of the receiver. All such reconstituted and/or commingled lots will no longer be considered positive lot identified and, therefore, no longer be eligible for indemnification or for appeal inspection. Handlers shall keep and maintain records of the quantities involved in each reconstituting and/or commingling procedure, whether in single or multiple lots, and such records shall be available to the Committee on request.

* * * * *

(h) * * *

(2) Handlers may blanch or cause to have blanched positive lot identified shelled peanuts (which originated from Segregation 1 peanuts) that fail to meet the requirements of paragraph (a) of this section because of excessive damage, minor defects, moisture, or foreign material or are positive as to aflatoxin: Provided, That such lots of peanuts contain not in excess of 8 percent damage and minor defects combined or 2 percent foreign material. Prior to movement of such peanuts to a blancher, handlers shall report to the Committee, on a form furnished by the Committee, and receive authorization from the Committee for movement and blanching of each such lot. Lots of peanuts which are moved under these provisions must be accompanied by a valid grade inspection certificate and the title shall be retained by the handler until the peanuts are blanched and certified by an inspector of the Federal or Federal-State Inspection Service as meeting the requirements for disposal into human consumption outlets. To be eligible for disposal into human consumption outlets, such peanuts after blanching, must meet specifications for unshelled peanuts, damaged kernels, minor defects, moisture, and foreign material as listed in paragraph (a) of this section and be accompanied by an aflatoxin certificate determined to be negative by the Committee. The residual peanuts, excluding skins and hearts, resulting from blanching under these provisions, shall be bagged and red tagged and disposition shall be that such peanuts are returned to the handler for further disposition under the provisions of paragraph (g)(3) of the Outgoing Quality Regulation of the Peanut Marketing agreement (§ 998.200); or in the alternative, such residuals shall be positive lot identified by a Federal or Federal-State Inspection Service, and shall be disposed of by the blancher to handlers who are crushers or exporters, or to crushers who are not handlers but who are approved by the Committee, or to a Committee approved exporter. Blanching under the provisions of this paragraph shall be performed only by those firms who agree to procedures acceptable to the Committee and who are approved by the Committee to do such blanching.

* * * * *

(4) Handlers may contract with Committee approved remillers for remilling shelled peanuts (which originated from Segregation 1 peanuts) that fail to meet the requirements for disposition to human consumption outlets heretofore specified in paragraph (a) of the Outgoing Quality Regulation: Provided, That such lots of peanuts contain not in excess of 8 percent damage and minor defects combined or 10 percent fall through or 2 percent foreign material. Prior to movement of such peanuts under these provisions to a Committee approved remiller, handlers shall report to the Committee, on a form furnished by the Committee, and receive authorization from the Committee for movement and remilling of each such lot. Lots of peanuts moved under these provisions must be accompanied by a valid grade inspection certificate and must be positive lot identified and the title of such peanuts shall be retained by the handler until the peanuts have been remilled and certified by the Federal or Federal-State Inspection Service as meeting the requirements for disposition to human consumption outlets specified in paragraph (a), and be accompanied by an aflatoxin certificate determined to be negative by the Committee. Remilling under these provisions may include composite remilling of more than one such lot of peanuts owned by the same handler. However, such peanuts owned by one handler shall be held and remilled separate and apart from all other peanuts. The residual peanuts resulting from remilling under these provisions, shall be bagged and red tagged and disposition shall be that such peanuts are returned to the handler for further disposition under the provisions of paragraph (g)(3) of the Outgoing Quality Regulation of the Peanut Marketing Agreement (§ 998.200); or in the alternative, such residuals shall be positive lot identified by a Federal or Federal-State Inspection Service, and shall be disposed of by the remiller to handlers who are crushers or exporters, or to crushers who are not handlers but who are approved by the Committee, or to a Committee approved exporter. Remilling under the provisions of this paragraph shall be performed only by those firms who agree to procedures acceptable to the Committee and who are approved by the Committee to do such remilling.

* * * * *

4. Section 998.300 is amended by revising the section heading, revising paragraph (l), and redesignating present

paragraph (p) as (p)(1) and adding a new paragraph (p)(2) to read as follows:

§ 998.300 Terms and conditions of indemnification—1993 crop peanuts.

* * * * *

(1) Notice of claims for indemnification on peanuts of the current crop year shall be received by the Committee (by mail or legible facsimile) no later than the close of the business day on November 1, following the end of the crop year. For the purpose of this paragraph, "notice" shall be defined as the covering (executed and signed) Form PAC–5 (Handler's Request For Rejection), accompanied by a copy of the applicable valid grade inspection certificate and the lab certificate showing the aflatoxin assay results which caused the request for rejection.

* * * * *

(p)(1) * * *

(2) Any handler who fails to comply with the requirements of paragraph (h)(2) or (h)(4) of the Outgoing Quality Regulation shall be ineligible for any indemnification payments until such non-compliance is corrected or reconciled to the satisfaction of the Committee.

* * * * *

Dated: June 23, 1993.

Robert C. Keeney,

Deputy Director, Fruit and Vegetable Division.

[FR Doc. 93–15274 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–02–P

Farmers Home Administration

7 CFR Part 1927

Real Estate Title Clearance and Loan Closing

AGENCY: Farmers Home Administration, USDA.

ACTION: Final rule, technical amendments.

SUMMARY: The Farmers Home Administration (FmHA) corrects a final rule published December 31, 1991, (56 FR 67470–67485) regarding real estate title clearance and loan closing with an effective date of January 30, 1992, that was extended to March 31, 1992 (57 FR 3276). The intent of this action is to correct errors in the final rule.

EFFECTIVE DATE: June 30, 1993.

FOR FURTHER INFORMATION CONTACT: Walter B. Patton, Senior Loan Specialist, Single Family Housing Processing Division, Farmers Home Administration, USDA, room 5334, South Agriculture Building, 14th and Independence Avenue, SW., Washington, DC 20250, telephone (202) 720–0099.

SUPPLEMENTARY INFORMATION: On December 31, 1991, FmHA published a final rule to implement changes in its Real Estate Title Clearance and Loan Closing regulations. As published, the final regulation contains errors which may be misleading and are in need of clarification.

Accordingly, chapter XVIII, title 7, Code of Federal Regulations is corrected as follows:

PART 1927—TITLE CLEARANCE AND LOAN CLOSING

1. The authority citation for part 1927 continues to read as follows:

Authority: 7 U.S.C. 1989; 42 U.S.C. 1480; 5 U.S.C. 301; 7 CFR 2.23; 7 CFR 2.70.

Subpart B—Real Estate Title Clearance and Loan Closing

2. Section 1927.52 is amended by adding the words "to the entire property" following the words "a clear title" at the end of the definition for *Title defects*, and by revising the second sentence of the definition for *Approval official* to read as follows:

§ 1927.52 Definitions.

Approval official * * * If a loan must be approved at a higher level because of the dollar amount or for other reasons, the initiating office may approve the closing agent.

* * * * *

§ 1927.54 [Amended]

3. Section 1927.54 is amended by adding the word "all" between the words "meet" and "the" in the introductory text of paragraph (c).

§ 1927.55 [Amended]

4. Section 1927.55 is amended by correcting the reference "FmHA Guide Letter No. 1927–1" to read "FmHA Guide Letter No. 1927–B–1" in the last sentence of paragraph (c), and by adding the words "judgments of record," between the words "outstanding" and "bankruptcy" in paragraph (d)(4).

§ 1927.56 [Amended]

5. Section 1927.56 is amended by correcting the reference "Form FmHA 1927–15, 'Loan Closing Instructions' " to read "Form FmHA 1927–15, 'Loan closing Instructions/Loan Closing Statement For' " in paragraph (b).

§ 1927.58 [Amended]

6. Section 1927.58 is amended by correcting the words "Form FmHA 1927–17, 'Loan Closing Statement' " to read "Form FmHA 1927–15," in the first sentence of paragraph (g), and by correcting the words "Forms FmHA 1927–15 and FmHA 1927–17" to read "Form FmHA 1927–15" in the second sentence of paragraph (h)(3).

§ 1927.59 [Amended]

7. Section 1927.59 is amended by correcting the word "when" to "if" in the introductory text of paragraph (a)(1).

Dated: May 15, 1993.

Bob Nash,

Under Secretary, Small Community and Rural Development.

[FR Doc. 93–15407 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–07–M

NATIONAL CREDIT UNION ADMINISTRATION

12 CFR Part 703

Investment and Deposit Activities

AGENCY: National Credit Union Administration, (NCUA).

ACTION: Final rule.

SUMMARY: The final rule revises NCUA's high-risk for Callateralized Mortgage Obligations (CMOs) and Real Estate Mortgage Investment Conduits (REMICs). Under this rule CMOs and REMICs will be subject to an average life test, an average life sensitivity test, and a price sensitivity test. A floating rate CMO or REMIC will also be subject to the price sensitivity test if it reaches its contractual cap at the time of purchase or on a subsequent testing date. The revised test is generally consistent with the Federal Financial Institutions Examination Council's (FFIEC) High Risk Securities Test (HRST) for mortgage derivatives, which applies to other depository institutions.

EFFECTIVE DATE: July 30, 1993.

ADDRESSES: National Credit Union Administration, 1776 G Street, NW., Washington, DC 20456.

FOR FURTHER INFORMATION CONTACT: Daniel Gordon, Investment Officer, Office of Examination and Insurance (800) 755–5999, or Lisa Henderson, Staff Attorney, Office of General Counsel (202) 682–9630, at the above address.

SUPPLEMENTARY INFORMATION:

A. Background and Discussion

On January 14, 1993, the NCUA Board issued proposed changes to part 703 of the NCUA Rules and Regulations (See 58 FR 5664, Jan. 22, 1993). Part 703 applies to federally chartered credit unions. State-chartered federally insured credit unions must set aside a special reserve for investments that go

beyond those authorized by part 703 (See Section 741.9(a)(3) of the NCUA Rules and Regulations.) The changes were proposed to attain consistency with the FFIEC's High Risk Securities Test (HRST) for mortgage derivations, which applies to other depository institutions. The Board has determined to issue the final rule as proposed. NCUA's adoption of the essential elements of the HRST test should eliminate confusion in the marketplace.

Under this final rule, federal credit unions are required to apply an average life test, an average life sensitivity test, and a price sensitivity test when purchasing or re-testing fixed or floating rate CMOs and REMICs. The price sensitivity test must be applied to a floating rate instrument if it reaches its contractual cap either at the time of purchase or at a subsequent re-testing date. The Board notes that the rule does not apply to investments in CMO residuals or stripped mortgage-backed securities (SMBS). CMO residuals and SMBS are prohibited for federal credit unions unless they are acquired *solely* to reduce interest-rate risk. In addition, credit unions are not permitted to purchase options. Since an interest rate cap is an option, credit unions cannot purchase interest rate contracts to uncap floating rate CMOs or REMICs that reach their contractual caps.

Federal credit unions are permitted to use standard industry calculators (Bloomberg, etc.) to perform the three tests contained in the rule. In performing any of the three tests, all of the underlying assumptions, including prepayment assumptions for the underlying collateral, must be reasonable and supportable. The assumptions needed to be documented in the credit union's records and be available for examiner review.

B. Comments

Twenty-one comment letters were received: fourteen from federal credit unions, including three corporate federal credit unions, two from state-chartered credit unions, two from national credit union trade associations, two from broker-dealers, and one from a trade association for government securities dealers. Nineteen of the commenters were in favor of the proposal. About half suggested modifications to it. Two of the commenters opposed the proposed rule.

Several commenters objected to the divestiture requirement for instruments which initially meet the requirements but do not pass the tests after the original purchase date. The Board notes that CMOs and REMICs can have substantially more volatility than the mortgage pools from which they are derived. As a result, an instrument with an acceptable risk at the time of purchase may, because of changes in the economic and financial environment, become too risky at a later date. The Board continues to believe that a federal credit union should not have high-risk securities in its portfolio, unless they are being used solely to offset interest-rate risk. Therefore, the divestiture requirement has been retained in the final rule.

As noted in the supplementary information section of the proposed rule, NCUA will address divestiture situations on a case-by-case basis under existing supervisory policies and procedures. Generally, existing policies and procedures permit NCUA and the affected credit union to develop a liquidation plan appropriate to the circumstances of the case. This plan would take into account all relevant factors, including the dollar amount of the investment, the remaining time to maturity, and the likelihood that the security may again pass the high-risk security test at a future testing date.

In general, where the credit union can demonstrate that the failure of the security to pass the tests is likely to be temporary, or where the sale of the investment would result in a significant loss to the credit union or impair its ability to pay a dividend, the credit union may be permitted to hold the investment until maturity, or until some point where the investment can be sold without significant loss. In accordance with generally accepted accounting principles, a CMO or REMIC which fails any one of the three tests on a subsequent testing date must be reported at the lower of cost or market value until it matures, is sold in the secondary market, or is shown to be a nonhigh-risk security on a subsequent testing date.

Individual prepayment models typically provide different results for the tests. While a federal credit union can comply with the regulations by demonstrating that a CMO or REMIC passes the tests when conducted under only one model, a conservative approach would be to use at least three separate models. The criteria used to determine whether a CMO or REMIC is suitable for the credit union should be identified in the credit union's investment policy.

The Board also notes that either a median or consensus prepayment model may be used to determine if a CMO or REMIC is a permissible investment. If a standard median or consensus prepayment model is used (Bloomberg, etc.), it would generally be unnecessary to use more than one model. If a nonstandard industry median or consensus is used, no fewer than five prepayment models should be included in the formulation of the median or consensus. In these cases the federal credit union should be able to provide sufficient information on each prepayment model used to formulate the median or consensus in order to demonstrate that the results of these models are all reasonable and supportable.

There are occasions when a CMO or REMIC could pass the tests for a 300 basis point change, but fail the HRST at some lesser shift in the yield curve. To be permissible investments, these securities must pass the tests for all yield curve shifts, up to and including a 300 basis point shift. Testing at 100, 200 and 300 basis point shifts should usually be sufficient to address these concerns.

The Board notes that recently, some CMOs and REMICs have been created from stripped mortgage-backed securities. These instruments are permitted if they can pass the high-risk security tests. This is no change from the prior rule.

C. Regulatory Procedures

Regulatory Flexibility Act

The Regulatory Flexibility Act requires NCUA to prepare an analysis to describe any significant economic impact any proposed regulation may have on a substantial number of small credit unions (primarily those under $1 million in assets). Based upon the experience of NCUA examiners, few small credit unions are engaging in the investment practices that are the subject of the final rule. Accordingly, the NCUA Board determines and certifies that the final rule will not have a significant economic impact on a substantial number of small credit unions and that a Regulatory Flexibility Analysis is not required.

Paperwork Reduction Act

The final rule does not impose any new paperwork requirements.

Executive Order 12612

Executive Order 12612 requires NCUA to consider the effect of its actions on state interests. Part 703 directly applies only to federally chartered credit unions, and the final rule makes no change in its application. Although part 703 indirectly applies to federally insured state-chartered credit unions through the insurance requirements at 12 CFR 741.9 (a)(3) and (b)(3), the Board determines that the

final rule will not have a substantial direct effect on the states, on the relationship of the national government and the states, or on the distribution of power and responsibilities among the various levels of government. Further, the final rule will not preempt provisions of state law or regulations.

List of Subjects in 12 CFR Part 703

Credit unions, Investments.

By the National Credit Union Administration Board on June 17, 1993.

Becky Baker,

Secretary of the Board.

For the reasons set forth in the preamble, 12 CFR part 703 is revised to read as follows.

PART 703—[AMENDED]

1. The authority citation for part 703 continues to read as follows:

Authority: 12 U.S.C. 1757(7), 1757(8), 1757(15), 1766(a), 1789(11).

2. In 703.5 the introductory text and paragraphs (g) and (j) are revised read as follows:

§ 703.5 Prohibited activities.

The prohibitions contained in paragraphs (f), (h) and (k) of this section shall not apply to securities purchased prior to December 2, 1991. The prohibition contained in paragraph (g) of this section shall not apply to securities purchased prior to July 30, 1993.

* * * * *

(g)(1) Except as provided in paragraph (i) of this section, a federal credit union may not purchase a CMO or REMIC which meets any of the following three tests:

(i) *Average Life Test.* The CMO or REMIC has an expected average life greater than 10 years

(ii) *Average Life Sensitivity Test.* The average life of the CMO or REMIC: (A) Extends by more then 4 years, assuming an immediate and parallel shift in the yield curve of plus 300 basis points, or

(B) Shortens by more than 6 years, assuming an immediate and sustained parallel shift in the yield curve of minus 300 basis points.

(iii) *Price Sensitivity Test.* The estimated change in the price of the CMO or REMIC is more than 17 percent, due to an immediate and sustained parallel shift in the yield curve of plus or minus 300 basis points.

(2) The three tests contained in paragraph (g) of this section shall apply at the time of purchase and on any subsequent re-testing date, assuming market interest rates and prepayment speeds at the time that the tests are applied.

* * * * *

(j) The average life and average life sensitivity tests contained in paragraph (g) of this section shall not apply to a floating or adjustable rate CMO/REMIC that has all of the following characteristics at the time of purchase or on a subsequent testing date, irrespective of whether or not it has been purchased to reduce interest-rate risk:

(1) The interest rate of the instrument is reset at least annually.

(2) The interest rate of the instrument, at the time of purchase or at a subsequent testing date, is below contractual cap of the instrument.

(3) The index upon which the interest rate is based is a conventional widely-used market interest rate such as the London Interbank Offered Rate (LIBOR).

(4) The interest rate of the instrument varies directly (not inversely) with the index upon which it is based and is not reset as a multiple of the change in the related index.

* * * * *

[FR Doc. 93–15221 Filed 6–29–93; 8:45 am]

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RESOLUTION TRUST CORPORATION

12 CFR Part 1626

RIN 3205–AA10

Program Fraud Civil Remedies and Procedures

AGENCY: Resolution Trust Corporation.

ACTION: Final rule.

SUMMARY: The Resolution Trust Corporation (RTC) hereby adopts rules to implement the Program Fraud Civil Remedies Act (the Act) of 1986. The rules would establish administrative procedures for determining whether to impose the statutorily authorized civil penalties against any person who makes, submits, or presents a false, fictitious, or fraudulent claim or written statement to the Corporation.

EFFECTIVE DATE: The rule will become effective on July 30, 1993.

FOR FURTHER INFORMATION CONTACT: Carl Gold, Division of Legal Services. Telephone: (202) 736–0728.

SUPPLEMENTARY INFORMATION: In October 1986, Congress enacted the Program Fraud Civil Remedies Act, 31 U.S.C. 3801, et. seq., to establish a new administrative remedy against those who knowingly make false claims and/or false statements. The statute requires specified entities of the federal government to adopt regulations that establish procedures to recover penalties and assessments against person who file false claims or statements. The Act provides for designated investigative and reviewing officials, an administrative hearing process, and an agency appeal procedure with limited judicial review. To facilitate the new process and promote uniformity in government, the President's Council on Integrity and Efficiency distributed draft model regulations to its membership. The RTC, with minor variation, proposed to adopt the model regulations set forth in the Council's final draft. The regulations also incorporate certain definitions and procedures required by the Act. In keeping with the Act's requirements, the RTC's regulations provide that the Inspector General or a designee will act as the Investigating Official; the Senior Vice President and General Counsel, or a designee, will act as the Reviewing Official; the Division of Legal Service will assist in prosecuting claims; an administrative law judge will be the Presiding Officer; and the President and Chief Executive Officer, or his designee, will act as Authority Head on appeals.

In addition to providing procedures for dealing with the filing of false claims or statements, it should be noted that the regulation provides procedures for assessing civil penalties against those who do business with the RTC despite intentionally failing to file certifications required by law. Attention is particularly directed to § 1626.3(c) of the regulation. While this section would apply to the failure to file any required certification, it particularly carries out the statutory command of the so-called "Byrd Amendment" (31 U.S.C. 1352) that the failure to file a certification required by that statute is punishable using procedures adopted pursuant to the Program Fraud Civil Remedies Act. (The same is true for any affirmative false statements made in response to the Byrd Amendment.) Comments were invited on all issues relating to the proposed rules. [57 FR 54337, November 18, 1992]. Only one comment was filed. The commenter supported adoption of the rules as proposed, and exhorted the RTC to redouble its efforts to deter and punish fraud in its programs. The RTC agrees with this position, and will use the remedies afforded under these procedures as one of many means to accomplish those objectives.

Final Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act, 5 U.S.C. 601, *et seq.*, the

RTC published for separate comment an initial regulatory flexibility analysis. No comments were separately filed in response to that initial analysis. The following final regulatory flexibility analysis is hereby provided:

1. Reasons, objectives, and legal bases underlying the regulation: These elements have been discussed elsewhere in the Supplementary Information. It has been noted that the RTC is statutorily mandated to promulgate these regulations. Therefore, to the extent that the regulation affects small firms or individuals, it is a direct consequence of that statutory mandate. By adopting this regulation, the RTC will ensure that all participants in the RTC's programs, including small firms and individuals, will have a better chance to compete because advantages inadvertently conferred to dishonest firms and individuals will be reduced or eliminated.

2. Small entities to which the regulation would apply. This element is discussed elsewhere in the Supplementary Information.

3. Impact of the final regulations on small businesses: This regulation would not increase the burden on small businesses to participate in the RTC's programs.

4. Overlapping or conflicting federal rules. There are no known federal rules which overlap, duplicate, or conflict with the final regulations.

5. Alternatives to the regulation. The RTC has not identified alternatives that would be less burdensome to small businesses and yet effectively accomplish the objectives of the regulation. As noted above, the regulation is mandated by statute, and many of the provisions and procedures are mandated by statute. The RTC is always willing to negotiate or streamline proceedings by agreement with the program participant to the extent permitted by the statute.

Lists of Subjects in 12 CFR Part 1626

Administrative practice and procedure, Claims, Fraud, Penalties.

For the reasons set out in the preamble, the RTC hereby adds part 1626 to title 12, chapter XVI, of the Code of Federal Regulations to read as follows:

PART 1626—PROGRAM FRAUD CIVIL REMEDIES AND PROCEDURES

Sec.

1626.1 Basis and purpose.
1626.2 Definitions.
1626.3 Basis for civil penalties and assessments.
1626.4 Investigations.
1626.5 Review by the revising official.
1626.6 Prerequisites for issuing a complaint.
1626.7 Complaint.
1626.8 Service of complaint.
1626.9 Answer.
1626.10 Default upon failure to file an answer.
1626.11 Referral of complaint and answer to the ALJ.
1626.12 Notice of hearing.
1626.13 Parties to the hearing.
1626.14 Separation of functions.
1626.15 Ex parte contacts.
1626.16 Disqualification of reviewing official or ALJ.
1626.17 Rights of parties.
1626.18 Authority of the ALJ.
1626.19 Prehearing conferences.
1626.20 Disclosure of documents.
1626.21 Discovery.
1626.22 Exchange of witness lists, statements, and exhibits.
1626.23 Subpoenas for attendance at hearing.
1626.24 Protective order.
1626.25 Witness fees.
1626.26 Form, filing, and service of papers.
1626.27 Computation of time.
1626.28 Motions.
1626.29 Sanctions.
1626.30 The hearing and burden of proof.
1626.31 Determining the amount of penalties and assessments.
1626.32 Location of hearing.
1626.33 Witnesses
1626.34 Evidence.
1626.35 The record.
1626.36 Post-hearing briefs.
1626.37 Initial decision.
1626.38 Reconsideration of initial decision.
1626.39 Appeal to authority head.
1626.40 Stays ordered by the Department of Justice.
1626.41 Stay pending appeal.
1626.42 Judicial review.
1626.43 Collection of civil penalties and assessments.
1626.44 Right to administrative offset.
1626.45 Deposit in Treasury of United States.
1626.46 Compromise or settlement.
1626.47 Limitations.

Authority: 12 U.S.C. 1441a(b)(12)(A); 31 U.S.C. 3809.

§ 1626.1 Basis and purpose.

(a) *Basis.* This part implements the Program Fraud Civil Remedies Act of 1986, Pub. L. 99–509, codified at 31 U.S.C. 3801–3812. 31 U.S.C. 3809 of the statute requires each authority head to promulgate regulations necessary to implement the provisions of the statute.

(b) *Purpose.* This part: (1) Establishes administrative procedures for imposing civil penalties and assessments against persons who make, submit, or present or cause to be made, submitted, or presented false, fictitious, or fraudulent claims or written statements to authorities or to their agents; and

(2) Specifies the hearing and appeal rights of persons subject to allegations of liability for such penalties and assessments.

§ 1626.2 Definitions.

(a) *Administrative Law Judge (ALJ)* means the authority appointed pursuant to 5 U.S.C. 3105 or detailed to the authority pursuant to 5 U.S.C. 3344.

(b) *Authority* means the Resolution Trust Corporation (RTC).

(c) *Authority head* means the President and Chief Executive Officer of the RTC, or a designee.

(d) *Benefit* means, in the context of "statement," anything of value, including but not limited to, any advantage, preference, privilege, license, permit, favorable decisions, ruling, status, or loan guarantee.

(e) *Claim* means any request, demand, or submission:

(1) Made to the authority for property, services, or money (including money representing grants, loans, insurance, or benefits);

(2) Made to a recipient of property, services, or money from the authority or to a party to a contract with the authority—

(i) For property or services if the United States:

(A) Provided such property or services;

(B) Provided any portion of the funds for the purchase of such property or services; or

(C) Will reimburse such recipient or party for the purchase of such property or services;

(ii) For the payment of money (including money representing grants, loans, insurance, or benefits) if the United States:

(A) Provided any portion of the money requested or demanded; or

(B) Will reimburse such recipient or party for any portion of the money paid on such request or demand; or

(3) Made to the authority which has the effect of decreasing an obligation to pay or account for property, services, or money.

(f) *Complaint* means the administrative complaint served by the reviewing official on the defendant under § 1626.7.

(g) *Corporation* means the Resolution Trust Corporation.

(h) *Defendant* means any person alleged in a complaint under § 1626.7 of this part to be liable for a civil penalty or assessment under § 1626.3.

(i) *Government* means the United States Government.

(j) *Individual* means a natural person.

(k) *Initial Decision* means the written decision of the ALJ required by § 1626.10 or § 1626.37, and includes a revised initial decision issued following

a remand or a motion for reconsideration.

(l) *Investigating official* means the Inspector General of the Resolution Trust Corporation, or an officer or employee of the Office of Inspector General designated by the Inspector General and serving in a position for which the rate of basic pay is not less than the minimum rate of basic pay for grade GS–16 under the General Schedule, or the equivalent under the pay scale utilized by the Resolution Trust Corporation.

(m) *Knows or has reason to know,* means that a person, with respect to a claim or statement:

(1) Has actual knowledge that the claim or statement is false, fictitious, or fraudulent;

(2) Acts in deliberate ignorance of the truth or falsity of the claim or statement; or

(3) Acts in reckless disregard of the truth or falsity of the claim or statement.

(n) *Makes,* wherever it appears, shall include the terms "presents," "submits", and "causes to be made, presented, or submitted". As the context requires, "making" or "made," shall likewise include the corresponding forms of such terms.

(o) *Person* means any individual, partnership, corporation, association, or private organization, and includes the plural of that term.

(p) *Representative* means an attorney, who is a member in good standing of the bar of any State, Territory, or possession of the United States or of the District of Columbia or the Commonwealth of Puerto Rico, and designated by a party in writing.

(q) *Reviewing Official* means the Senior Vice President and General Counsel, or a designee who is:

(1) Not subject to supervision by, or required to report to, the investigating official;

(2) Not employed in the organizational unit of the authority in which the investigating official is employed; and

(3) Serving in a position for which the rate of basic pay is not less than the minimum rate of basic pay for grade GS–16 under the General Schedule, or the equivalent under the pay scale utilized by the Resolution Trust Corporation.

(r) *Statement* means any representation, certification, affirmation, document, record, or accounting or bookkeeping entry made:

(1) With respect to a claim or to obtain the approval or payment of a claim (including relating to eligibility to make a claim); or

(2) With respect to (including relating to eligibility for):

(i) A contract with, or a bid or proposal for a contract with; or

(ii) A grant, loan, or benefit received, directly or indirectly, from the authority, or any State, political subdivision of a State, or any other party, if the United States Government provides any portion of the money or property under such contract or for such grant, loan, or benefit, or if the Government will reimburse such State, political subdivision, or party for any portion of the money or property under such contract or for such grant, loan, or benefit.

§ 1626.3 Basis for civil penalties and assessments.

(a) *Claims.* (1) Except as provided in paragraph (c) of this section, any person who makes a claim that the person knows or has reason to know constitutes any of the following in paragraphs (a)(1)(i) through (iv) of this section, shall be subject, in addition to any other remedy that may be prescribed by law, to a civil penalty of not more than $5,000 for each such claim:

(i) The claim is false, fictitious, or fraudulent;

(ii) The claim includes or is supported by any written statement which asserts a material fact which is false, fictitious, or fraudulent; or

(iii) The claim includes or is supported by any written statement that:

(A) Omits a material fact;

(B) Is false, fictitious, or fraudulent as a result of such omission; and

(C) Is a statement in which the person making such statement has a duty to include such material fact; or

(iv) The claim is for payment for the provision of property or services which the person has not provided as claimed.

(2) Each voucher, invoice, claim form, or other individual request or demand for property, services, or money constitutes a separate claim.

(3) A claim shall be considered made to the authority, recipient, or party when such claim is actually made to an agent, fiscal intermediary, or other entity, including any State or political subdivision thereof, acting for or on behalf of such authority, recipient, or party.

(4) Each claim for property, services, or money is subject to a civil penalty regardless of whether such property, services, or money is actually delivered or paid.

(5) If the Government has made any payment (including transferred property or provided services) on a claim, a person subject to a civil penalty under paragraph (a)(1) of this section shall also be subject to an assessment of not more than twice the amount of such claim or that portion thereof that is determined to be in violation of paragraph (a)(1) of this section. Such assessment shall be in lieu of damages sustained by the Government because of such claims.

(b) *Statements.* (1) Except as provided in paragraph (c) of this section, any person who makes a written statement that meets the conditions in paragraphs (b)(1) (i) and (ii) of this section shall be subject, in addition to any other remedy that may be prescribed by law, to a civil penalty of not more than $5,000 for each such statement:

(i) The person knows or has reason to know that the statement:

(A) Asserts a material fact which is false, fictitious, or fraudulent; or

(B) Is false, fictitious, or fraudulent because it omits a material fact that the person making the statement has a duty to include in such statement; and

(ii) Contains or is accompanied by an express certification or affirmation of the truthfulness and accuracy of the contents of the statement.

(2) Each written representation, certification, or affirmation constitutes a separate statement.

(3) A statement shall be considered made to the authority when such statement is actually made to an agent, fiscal intermediary, or other entity, including any State or political subdivision thereof, acting for or on behalf of such authority.

(c) *Failure to file certification.* Where, as a prerequisite to conducting business with the RTC, a person is required by law to file one or more certifications, and the person intentionally fails to file such certification, the person shall be subject to civil penalties as prescribed by this part.

(d) *Intent.* No proof of specific intent to defraud is required to establish liability under this section.

(e) *Liability.* (1) In any case in which it is determined that more than one person is liable for making a claim or statement under this section, each such person may be held jointly and severally liable for a civil penalty under this section.

(2) In any case in which it is determined that more than one person is liable for making a claim under this section on which the Government has made payment (including transferred property or provided services), an assessment may be imposed against any such person or jointly and severally against any combination of such persons.

§ 1626.4 Investigations.

(a) If an investigating official concludes that a subpoena pursuant to the authority conferred by 31 U.S.C. 3804(a) is warranted:

(1) The subpoena so issued shall identify the person to whom it is addressed and the authority under which the subpoena is issued and shall identify the records or documents sought;

(2) The investigating official may designate a person to act on his or her behalf to receive the documents sought; and

(3) The person receiving such subpoena shall be required to tender to the investigating official or the person designated to receive the documents a certification that the documents sought have been produced, or that such documents are not available, and the reasons therefor, or that such documents, suitably identified, have been withheld based upon the assertion of an identified privilege.

(b) If the investigating official concludes that an action under the Program Fraud Civil Remedies Act may be warranted, the investigating official shall submit a report containing the findings and conclusions of such investigation to the reviewing official.

(c) Nothing in this section shall preclude or limit an investigating official's discretion to refer allegations directly to the Department of Justice for suit under the False Claims Act or other civil relief, or to preclude or limit such official's discretion to defer or postpone a report or referral to the reviewing official to avoid interference with a criminal investigation or prosecution.

(d) Nothing in this section modifies any responsibility of an investigating official to report violations of criminal law to the Attorney General.

§ 1626.5 Review by the reviewing official.

(a) If, based on the report of the investigating official under § 1626.4(b) the reviewing official determines that there is adequate evidence to believe that a person is liable under § 1626.3, the reviewing official shall transmit to the Attorney General a written notice of the reviewing official's intention to issue a complaint under § 1626.7.

(b) Such notice shall include:

(1) A statement of the reviewing official's reasons for issuing a complaint;

(2) A statement specifying the evidence that supports the allegations of liability;

(3) A description of the claims or statements upon which the allegations of liability are based;

(4) An estimate of the amount of money or the value of property, services, or other benefits requested or demanded in violation of § 1626.3;

(5) A statement of any exculpatory or mitigating circumstances that may relate to the claims or statements known by the reviewing official or the investigating official; and

(6) A statement that there is a reasonable prospect of collecting an appropriate amount of penalties and assessments. Such a statement may be based upon information then known, or an absence of any information indicating that the person may be unable to pay such amount.

§ 1626.6 Prerequisites for issuing a complaint.

(a) The reviewing official may issue a complaint under § 1626.7 only if:

(1) The Department of Justice approves the issuance of a complaint in a written statement described in 31 U.S.C. 3803(b)(1); and

(2) In the case of allegations of liability under § 1626.3(a) with respect to a claim, the reviewing official determines that, with respect to such claim or a group of related claims submitted at the same time such claim is submitted (as defined in paragraph (b) of this section), the amount of money or the value of property or services demanded or requested in violation of § 1626.3(a) does not exceed $150,000.

(b) For the purposes of this section, a related group of claims submitted at the same time shall include only those claims arising from the same transaction (e.g., grant, loan, application, or contract) that are submitted simultaneously as part of a single request, demand, or submission.

(c) Nothing in this section shall be construed to limit the reviewing official's authority to join in a single complaint against a person claims that are unrelated or were not submitted simultaneously, regardless of the amount of money, or the value of property or services, demanded or requested.

§ 1626.7 Complaint.

(a) On or after the date the Department of Justice approves the issuance of a complaint in accordance with 31 U.S.C. 3803(b)(1), the reviewing official may serve a complaint on the defendant, as provided in § 1626.8.

(b) The complaint shall state:

(1) The allegations of liability against the defendant, including the statutory basis for liability, or identification of the claims or statements that are the basis for the alleged liability, and the reasons why liability allegedly arises from such claims or statements;

(2) The maximum amount of penalties and assessments for which the defendant may be held liable;

(3) Instructions for filing an answer and to request a hearing, including a specific statement of the defendant's right to request a hearing by filing an answer and to be represented by a representative; and

(4) That failure to file an answer within 30 days of service of the complaint will result in the imposition of the maximum amount of penalties and assessments without right to appeal, as provided in § 1626.10.

(c) At the same time the reviewing official serves the complaint, he or she shall serve the defendant with a copy of this part.

§ 1626.8 Service of complaint.

(a) Service of a complaint must be made by certified or registered mail or by delivery in any manner authorized by Rule 4(d) of the Federal Rules of Civil Procedure (28 U.S.C. App.). Service is complete upon receipt.

(b) Proof of service, stating the name and address of the person on whom the complaint was served, and the manner and date of service, may be made by:

(1) Affidavit of the individual serving the complaint by delivery;

(2) A United States Postal Service return receipt card acknowledging receipt; or

(3) Written acknowledgment of receipt by the defendant or his or her representative.

§ 1626.9 Answer.

(a) The defendant may request a hearing by filing an answer with the reviewing official within 30 days of service of the complaint. An answer shall be deemed to be a request for hearing.

(b) In the answer, the defendant:

(1) Shall admit or deny each of the allegations of liability made in the complaint;

(2) Shall state any defense on which the defendant intends to rely;

(3) May state any reasons why the defendant contends that the penalties and assessments should be less than the statutory maximum; and

(4) Shall state the name, address, and telephone number of the person authorized by the defendant to act as defendant's representative, if any.

(c) If the defendant is unable to file an answer meeting the requirements of paragraph (b) of this section within the time provided, the defendant may, before the expiration of 30 days from service of the complaint, file with the reviewing official a general answer denying liability and requesting a

hearing, and a request for an extension of time within which to file an answer meeting the requirements of paragraph (b) of this section. The reviewing official shall file promptly with the ALJ the complaint, the general answer denying liability, and the request for an extension of time as provided in § 1626.11. For good cause shown, the ALJ may grant the defendant up to 30 additional days within which to file an answer meeting the requirements of paragraph (b) of this section.

§ 1626.10 Default upon failure to file an answer.

(a) If the defendant does not file an answer within the time prescribed in § 1626.9(a), the reviewing official may refer the complaint to the ALJ.

(b) Upon the referral of the complaint, the ALJ shall promptly serve on defendant in the manner prescribed in § 1626.8, a notice that an initial decision shall be issued under this section.

(c) If the defendant fails to answer, the ALJ shall assume the facts alleged in the complaint to be true, and, if such facts establish liability under § 1626.3, the ALJ shall issue an initial decision imposing the maximum amount of penalties and assessments allowed under the statute.

(d) Except as otherwise provided in this section, by failing to file a timely answer, the defendant waives any right to further review of the penalties and assessments imposed under paragraph (c) of this section, and the initial decision shall become final and binding upon the parties 30 days after it is issued.

(e) If, before such a decision becomes final, the defendant files a motion with the ALJ seeking to reopen on the grounds that extraordinary circumstances prevented the defendant from filing an answer, the initial decision shall be stayed pending the ALJ's decision on the motion.

(f) If, on such motion, the defendant can demonstrate extraordinary circumstances excusing the failure to file a timely answer, the ALJ shall withdraw the decision in paragraph (c) of this section, if such a decision has been issued, and shall grant the defendant an opportunity to answer the complaint.

(g) A decision of the ALJ denying a defendant's motion under paragraph (e) of this section is not subject to reconsideration under § 1626.38.

(h) The defendant may appeal to the authority head of the decision denying the motion to reopen by filing a notice of appeal with the authority head within 15 days after the ALJ denies the motion. The timely filing of a notice of appeal shall stay the initial decision until the authority head decides the issue.

(i) If the defendant files a timely notice of appeal with the authority head, the ALJ shall forward the record of the proceeding to the authority head.

(j) The authority head shall decide expeditiously whether extraordinary circumstances excuse the defendant's failure to file a timely answer based solely on the record before the ALJ.

(k) If the authority head decides that extraordinary circumstances excuses the defendant's failure to file a timely answer, the authority head shall remand the case to the ALJ with instructions to grant the defendant an opportunity to answer.

(l) If the authority head decides that the defendant's failure to file a timely answer is not excused, the authority head shall reinstate the initial decision of the ALJ, which shall become final and binding upon the parties 30 days after the authority head issues such decision.

§ 1626.11 Referral of complaint and answer to the ALJ.

Upon receipt of an answer, the reviewing official shall file the complaint and answer with the ALJ. The reviewing official shall include the name, address and telephone number of a representative for the Corporation.

§ 1626.12 Notice of hearing.

(a) When the ALJ receives the complaint and answer, the ALJ shall promptly serve a notice of hearing upon the defendant in the manner prescribed by § 1626.8. At the same time, the ALJ shall send a copy of such notice to the representative of the Corporation.

(b) Such notice shall include:

(1) The tentative time, date, and place, and the nature of the hearing;

(2) The legal authority and jurisdiction under which the hearing is to be held;

(3) The matters of fact and law to be asserted;

(4) A description of the procedures for the conduct of the hearing;

(5) The name, address, and telephone number of the representative of the Corporation and of the defendant, if any; and

(6) Such other matters as the ALJ deems appropriate.

§ 1626.13 Parties to the hearing.

(a) The parties to the hearing shall be the defendant and the Corporation.

(b) Pursuant to the False Claims Act (31 U.S.C. 3730(c)(5)), a private plaintiff under the False Claims Act may participate in these proceedings to the extent authorized by the provisions of that Act.

§ 1626.14 Separation of functions.

(a) The investigating official, the reviewing official, and any employee or agent of the authority who takes part in investigating, preparing, or presenting a particular case may not, in such case or a factually related case:

(1) Participate in the hearing as the ALJ;

(2) Participate or advise in the initial decision or the review of the initial decision by the authority head, except as a witness or a representative in public proceedings; or

(3) Make the collection of penalties and assessments under 31 U.S.C. 3806.

(b) The ALJ shall not be responsible to, or subject to the supervision or direction of, the investigating official or the reviewing official.

(c) Except as provided in paragraph (a) of this section, the representative for the Corporation may be employed anywhere in the authority, including in the offices of either the investigating official or the reviewing official; however, the representative for the Corporation may not participate or advise in the review of the initial decision by the authority head.

§ 1626.15 Ex parte contacts.

No party or person (except employees of the ALJ's office) shall communicate in any way with the ALJ on any matter at issue in a case, unless on notice and opportunity for all parties to participate. This provision does not prohibit a person or party from inquiring about the status of a case or asking routine questions concerning administrative functions or procedures.

§ 1626.16 Disqualification of reviewing official or ALJ.

(a) A reviewing official or ALJ in a particular case may disqualify himself or herself at any time.

(b) A party may file with the ALJ a motion for disqualification of a reviewing official or an ALJ. Such motion shall be accompanied by an affidavit alleging conflict of interest or other reason for disqualification.

(c) Such motion and affidavit shall be filed promptly upon the party's discovery of reasons requiring disqualification, or such objections shall be deemed waived.

(d) Such affidavit shall state specific facts that support the party's belief that personal bias or other reason for disqualification exists and the time and circumstances of the party's discovery of such facts. It shall be accompanied by a certificate or the representative of record that it is made in good faith.

(e) Upon the filing of such a motion and affidavit, the ALJ shall proceed no

further in the case until he or she resolves the matter of disqualification in accordance with paragraph (f) of this section.

(f) (1) If the ALJ determines that a reviewing official is disqualified, the ALF shall dismiss the complaint without prejudice.

(2) If the ALJ disqualifies himself or herself, the case shall be reassigned promptly to another ALJ.

(3) If the ALJ denies a motion to disqualify, the authority head may determine the matter only as part of his, or her review or the initial decision upon appeal, if any.

§ 1626.17 Rights of parties.

Except as otherwise limited by this part, all parties may:

(a) Be accompanied, represented, and advised by a representative;

(b) Participate in any conference held by the ALJ;

(c) Conduct discovery;

(d) Agree to stipulations of fact or law, which shall be made part of the record;

(e) Present evidence relevant to the issues at the hearing;

(f) Present and cross-examine witnesses;

(g) Present oral arguments at the hearing as permitted by the ALJ; and

(h) Submit written briefs and proposed findings of fact and conclusions of law.

§ 1626.18 Authority of the ALJ.

(a) The ALJ shall conduct a fair and impartial hearing, avoid delay, maintain order, and assure that a record of the proceeding is made.

(b) The ALJ has the authority to:

(1) Set and change the date, time, and place of the hearing upon reasonable notice to the parties;

(2) Continue or recess the hearing in whole or in part for a reasonable period of time;

(3) Hold conferences to identify or simplify the issues, or to consider other matters that may aid in the expeditious disposition of the proceeding;

(4) Administer oaths and affirmations;

(5) Issue subpoenas requiring the attendance of witnesses and the production of documents at depositions or at hearings;

(6) Rule on motions and other procedural matters;

(7) Regulate the scope and timing of discovery;

(8) Regulate the course of the hearing and the conduct of representatives and parties;

(9) Examine witnesses;

(10) Receive, rule on, exclude, or limit evidence;

Upon motion of a party, take official notice of facts; decide cases, in whole or in part, by summary judgment where there is no disputed issue of material fact;

(12) Conduct any conference, argument, or hearing on motions in person or by telephone; and

(13) Exercise such other authority as is necessary to carry out the responsibilities of the ALJ under this part.

(c) The ALJ does not have the authority to make any determinations regarding the validity of Federal statutes or regulations, or of directives, rules, resolutions, policies, orders, or other such general pronouncements issued by the Corporation.

§ 1626.19 Prehearing conferences.

(a) The ALJ may schedule prehearing conferences as appropriate.

(b) Upon the motion of any party, the ALJ shall schedule at least one prehearing conference at a reasonable time in advance of the hearing.

(c) The ALJ may use prehearing conferences to discuss the following:

(1) Simplification of the issues;

(2) The necessity or desirability of amendments to the pleadings, including the need for a more definite statement;

(3) Stipulations and admissions of fact or as to the contents and authenticity of documents;

(4) Whether the parties can agree to submission of the case on a stipulated record;

(5) Whether a party (subject to the objection of other parties) chooses to waive appearance at an oral hearing and to submit only documentary evidence and written argument;

(6) Limitation of the number of witnesses;

(7) Scheduling dates for the exchange of witness lists and of proposed exhibits;

(8) Discovery;

(9) The time, date, and place for the hearing; and

(10) Such other matters as may tend to expedite the fair and just disposition of the proceedings.

(d) The ALJ may issue an order containing all matters agreed upon by the parties or ordered by the ALJ at a prehearing conference.

§ 1626.20 Disclosure of documents.

(a) Upon written request to the reviewing official, the defendant may review any relevant and material documents, transcripts, records, and other materials that relate to the allegations set out in the complaint and upon which the findings and conclusions of the investigating official under § 1626.4(b) are based, unless such documents are subject to a privilege under Federal law. Upon payment of fees for duplication, the defendant may obtain copies of such documents.

(b) Upon written request to the reviewing official, the defendant also may obtain a copy of all exculpatory information in the possession of the reviewing official or investigating official relating to the allegations in the complaint, even if it is contained in a document that would otherwise be privileged. If the document would otherwise be privileged, only that portion containing exculpatory information must be disclosed.

(c) The notice sent to the Attorney General from the reviewing official as described in § 1626.5 is not discoverable under any circumstances.

(d) The defendant may file a motion to compel disclosure of the documents subject to the provisions of this section. Such a motion may only be filed with the ALJ following the filing of an answer pursuant to § 1626.9.

§ 1626.21 Discovery.

(a) The following types of discovery are authorized:

(1) Requests for production of documents for inspection and copying:

(2) Request for admissions of the authenticity of any relevant document or of the truth of any relevant fact;

(3) Written interrogatories; and

(4) Dispositions.

(b) For the purpose of this section and §§ 1626.22 and 1626.23, the term "documents" includes information, documents, reports, answers, records, accounts, papers, and other data or documentary evidence. Nothing contained in this part shall be interpreted to require the creation of a document.

(c) Unless mutually agreed to by the parties, discovery is available only as ordered by the ALJ. The ALJ shall regulate the timing of discovery.

(d) Motions for discovery. (1) A party seeking discovery may file a motion with the ALJ. Such a motion shall be accompanied by a copy of the requested discovery, or in the case of depositions, a summary of the scope of the proposed deposition.

(2) Within 10 days of service, a party may file an opposition to the motion and/or a motion for protective order as provided in § 1626.24.

(3) The ALJ may grant a motion for discovery only if he or she finds that the discovery sought:

(i) Is necessary for the expeditious, fair, and reasonable consideration of the issues;

(ii) Is not unduly costly or burdensome;

(iii) Will not unduly delay the proceeding; and

(iv) Does not seek privileged information.

(4) The burden of showing that discovery should be allowed is on the party seeking discovery.

(5) The ALJ may grant discovery subject to a protective order under § 1626.24.

(e) Depositions. (1) If a motion for deposition is granted, the ALJ shall issue a subpoena for the deponent, which may require the deponent to produce documents. The subpoena shall specify the time, date, and place at which the deposition will be held.

(2) The party seeking to depose shall serve the subpoena in the manner prescribed in § 1626.8.

(3) The deponent may file with the ALJ a motion to quash the subpoena or a motion for a protective order within 10 days of service.

(4) The party seeking to depose shall provide for the taking of a verbatim transcript of the deposition, which it shall make available to all other parties for inspection and copying.

(f) Each party shall bear its own costs of discovery.

§ 1626.22 Exchange of witness lists, statements, and exhibits.

(a) At least 15 days before the hearing or at such other time as may be ordered by the ALJ, the parties shall exchange witness lists, copies of prior statements of proposed witnesses, and copies of proposed hearing exhibits, including copies of any written statements that the party intends to offer in lieu of live testimony in accordance with § 1626.33(b). At the time the above documents are exchanged, any party that intends to rely on the transcript of deposition testimony in lieu of live testimony at the hearing, if permitted by the ALJ, shall provide each party with a copy of the specific pages of the transcript it intends to introduce into evidence.

(b) If a party objects, the ALJ shall not admit into evidence the testimony of any witness whose name does not appear on the witness list or any exhibit not provided to the opposing party as provided above unless the ALJ finds good cause for the failure or that there is not prejudice to the objecting party.

(c) Unless another party objects within the time set by the ALJ, documents exchanged in accordance with paragraph (a) of this section shall be deemed to be authentic for the purpose of admissibility at the hearing.

§ 1626.23 Subpoenas for attendance at hearing.

(a) A party wishing to procure the appearance and testimony of any individual at the hearing may request that the ALJ issue a subpoena.

(b) A subpoena requiring the attendance and testimony of an individual may also require the individual to produce documents at the hearing.

(c) A party seeking a subpoena shall file a written request therefore not less than 15 days before the date fixed for the hearing unless otherwise allowed by the ALJ for good cause shown. Such request shall specify any documents to be produced and shall designate the witnesses and describe the address and location thereof with sufficient particularity to permit such witnesses to be found.

(d) The subpoena shall specify the time, date, and place at which the witness is to appear and any documents the witness is to produce.

(e) The party seeking the subpoena shall serve it in the manner prescribed in § 1626.8. A subpoena on a party or upon an individual under the control of a party may be served by first class mail.

(f) A party or the individual to whom the subpoena is directed may file with the ALJ a motion to quash the subpoena within 10 days after service or on or before the time specified in the subpoena for compliance if it is less than 10 days after service.

§ 1626.24 Protective order.

(a) A party or a prospective witness or deponent may file a motion for a protective order with respect to discovery sought by an opposing party or with respect to the hearing, seeking to limit the availability or disclosure of evidence.

(b) In issuing a protective order, the ALJ may make any order which justice requires to protect a party or person from annoyance, embarrassment, oppression, or undue burden or expense, including one or more of the following:

(1) That the discovery not be had;

(2) That the discovery may be had only on specified terms and conditions, including a designation of the time or place;

(3) That the discovery may be had only through a method of discovery other than that requested;

(4) The certain matters not be inquired into, or that the scope of discovery be limited to certain matters;

(5) That discovery be conducted with no one present except persons designated by the ALJ;

(6) That the contents of discovery or evidence be sealed;

(7) That a deposition after being sealed be opened only by order of the ALJ;

(8) That a trade secret or other confidential research, development, commercial information, or facts pertaining to any criminal investigation, proceeding, or other administrative investigation not be disclosed or be disclosed only in a designated way; or

(9) That the parties simultaneously file specified documents or information enclosed in sealed envelopes to be opened as directed by the ALJ.

§ 1626.25 Witness fees.

The party requesting a subpoena shall pay the cost of the fees and mileage of any witness subpoenaed in the amounts that would be payable to a witness in a proceeding in United States District Court. A check for witness fees and mileage shall accompany the subpoena when served, except that when a subpoena is issued on behalf of the authority, a check for witness fees and mileage need not accompany the subpoena.

§ 1626.26 Form, filing, and service of papers.

(a) *Form.* (1) Documents filed with the ALJ shall include an original and two copies.

(2) Every pleading and paper filed in the proceeding shall contain a caption setting forth the title of the action, the case number assigned by the ALJ, and a designation of the paper (e.g., motion to quash subpoena).

(3) Every pleading and paper shall be signed by, and shall contain the address and telephone number of the party or the person on whose behalf the paper was filed, or his or her representative.

(4) Papers are considered filed when they are mailed. Date of mailing may be established by a certificate from the party or its representative or by proof that the document was sent by certified or registered mail.

(b) *Service.* A party filing a document with the ALJ shall, at the time of filing, serve a copy of such document on every other party. Service upon any party of any document other than those required to be served as prescribed in § 1626.8 shall be made by delivering a copy or by placing a copy of the document in the United States mail, postage prepaid, and addressed to the party's last known address. When a party is represented by a representative, service shall be made upon such representative in lieu of the actual party. The ALJ may authorize facsimile transmission as an acceptable form of service.

(c) *Proof of service.* A certificate by the individual serving the document by personal delivery or by mail, setting forth the manner of service, shall be proof of service.

§ 1626.27 Computation of time.

(a) In computing any period of time under this part or in an order issued thereunder, the time begins with the day following the act, event, or default, and includes the last day of the period, unless it is a Saturday, Sunday, or legal holiday observed by the Federal government, in which event it includes the next business day.

(b) When the period of time allowed is less than 7 days, intermediate Saturday, Sundays, and legal holidays observed by the Federal government shall be excluded from the computation.

(c) Where a document has been served or issued by placing it in the mail, an additional 5 days will be added to the time permitted for any response.

§ 1626.28 Motions.

(a) Any application to the ALJ for an order or ruling shall be by motion. Motions shall state the relief sought, the authority relied upon, and the facts alleged, and shall be filed with the ALJ and served on all other parties. Motions may include, without limitation, motions for summary judgment.

(b) Except for motions made during a prehearing conference or at the hearing, all motions shall be in writing. The ALJ may require that oral motions be reduced to writing.

(c) Within 15 days after a written motion is served, or such other time as may be fixed by the ALJ, any party may file a response to such motion.

(d) The ALJ may not grant a written motion before the time for filing responses thereto has expired, except upon consent of the parties or following a hearing on the motion, but may overrule or deny such motion without awaiting a response.

(e) The ALJ shall make a reasonable effort to dispose of all outstanding motions prior to the beginning of the hearing.

§ 1626.29 Sanctions.

(a) The ALJ may sanction a person, including any party or representative for:

(1) Failing to comply with an order, rule, or procedure governing the proceeding;

(2) Failing to prosecute or defend an action; or

(3) Engaging in other misconduct that interferes with the speedy, orderly, or fair conduct of the hearing.

(b) Any such sanction, including but not limited to those listed in paragraphs (c), (d), and (e) of this section, shall reasonably relate to the severity and nature of the failure or misconduct.

(c) When a party fails to comply with an order, including an order for taking a deposition, the production of evidence within the party's control, or a request for admission, the ALJ may:

(1) Draw an inference in favor of the requesting party with regard to the information sought;

(2) In the case of requests for admission, deem each matter of which an admission is requested to be admitted;

(3) Prohibit the party failing to comply with such order from introducing evidence concerning, or otherwise relying upon, testimony relating to the information sought; and

(4) Strike any part of the pleading or other submissions of the party failing to comply with such request.

(d) If a party fails to prosecute or defend an action under this part commenced by service of a notice of hearing, the ALJ may dismiss the action or may issue an initial decision imposing penalties and assessments.

(e) The ALJ may refuse to consider any motion, request, response, brief, or other document which is not filed in a timely fashion.

§ 1626.30 The hearing and burden of proof.

(a) The ALJ shall conduct a hearing on the record in order to determine whether the defendant is liable for a civil penalty or assessment under § 1626.3, and, if so, the appropriate amount of any such civil penalty or assessment considering any aggravating or mitigating factors.

(b) The authority shall prove defendant's liability and any aggravating factors by a preponderance of the evidence.

(c) The defendant shall prove any affirmative defenses and any mitigating factors by a preponderance of the evidence.

(d) The hearing shall be open to the public unless otherwise ordered by the ALJ for good cause shown.

§ 1626.31 Determining the amount of penalties and assessments.

(a) In determining an appropriate amount of civil penalties and assessments, the ALJ and the authority head, upon appeal, should evaluate any circumstances that mitigate or aggravate the violation and should articulate in their opinions the reasons that support the penalties and assessments they impose. Because of the intangible costs of fraud, the expense of investigating such conduct, and the need to deter others who might be similarly tempted, ordinarily double damages and a significant civil penalty should be imposed.

(b) Although not exhaustive, the following factors are among those that may influence the ALJ and the authority head in determining the amount of penalties and assessments to impose with respect to the misconduct (i.e., the false, fictitious, or fraudulent claims or statement) charged in the complaint:

(1) The number of false, fictitious, or fraudulent claims or statements;

(2) The time period over which such claims or statements were made;

(3) The degree of the defendant's culpability with respect to the misconduct;

(4) The amount of money or the value of the property, services, or benefit falsely claimed;

(5) The value of the Government's actual loss as a result of the misconduct, including foreseeable consequential damages and the costs of investigation;

(6) The relationship of the amount imposed as civil penalties to the amount of the Government's loss;

(7) The potential or actual impact of the misconduct upon national defense, public health or safety, or public confidence in the management of government programs and operations, including particularly the impact on the intended beneficiaries of such programs;

(8) Whether the defendant has engaged in a pattern of the same or similar misconduct;

(9) Whether the defendant attempted to conceal the misconduct;

(10) The degree to which the defendant has involved others in the misconduct or in concealing it;

(11) Where the misconduct of employees or agents is imputed to the defendant, the extent to which the defendant's practices fostered or attempted to preclude such misconduct;

(12) Whether the defendant cooperated in or obstructed an investigation of the misconduct;

(13) Whether the defendant assisted in identifying and prosecuting other wrongdoers;

(14) The complexity of the program or transaction, and the degree of the defendant's sophistication with respect to it, including the extent of the defendant's prior participation in the program or in a similar transaction;

(15) Whether the defendant has been found, in any criminal, civil, or administrative proceeding to have engaged in similar misconduct or to have dealt dishonestly with the Government of the United States or of a State, directly or indirectly; and

(16) The need to deter the defendant and others from engaging in the same or similar misconduct.

(c) Nothing in this section shall be construed to limit the ALJ or the authority head from considering any other factors that in any given case may

mitigate or aggravate the offense for which penalties and assessments are imposed.

§ 1626.32 Location of hearing.

(a) The hearing may be held:

(1) In any judicial district of the United States in which the defendant resides or transacts business;

(2) In any judicial district of the United States in which the claim or statement at issue was made; or

(3) In such other place as may be agreed upon by the defendant and the ALJ.

(b) Each party shall have the opportunity to present argument with respect to the location of the hearing.

(c) The hearing shall be held at the place and at the time ordered by the ALJ.

§ 1626.33 Witnesses.

(a) Except as provided in paragraph (b) of this section, testimony at the hearing shall be given orally by witnesses under oath or affirmation.

(b) At the discretion of the ALJ, testimony may be admitted in the form of a written statement or deposition. Any such written statement must be provided to all other parties along with the last known address of such witness, in a manner which allows sufficient time for other parties to subpoena such witness for cross-examination at the hearing. Prior written statements of witnesses proposed to testify at the hearing and deposition transcripts shall be exchanged as provided in § 1626.22(a).

(c) The ALJ shall exercise reasonable control over the mode and order of interrogating witnesses and presenting evidence so as to:

(1) Make the interrogation and presentation effective for the ascertainment of the truth;

(2) Avoid needless consumption of time; and

(3) Protect witnesses from harassment or undue embarrassment.

(d) The ALJ shall permit the parties to conduct such cross-examination as may be required for a full and true disclosure of the facts.

(e) At the discretion of the ALJ, a witness may be cross-examined on matters relevant to the proceeding without regard to the scope of his or her direct examination. To the extent permitted by the ALJ, cross-examination on matters outside the scope of direct examination shall be conducted in the manner of direct examination and may proceed by leading questions only if the witness is a hostile witness, an adverse party, or a witness identified with an adverse party.

(f) Upon motion of any party, the ALJ shall order witnesses excluded so that they cannot hear the testimony of other witnesses. The ALJ is not authorized to exclude:

(1) A party who is an individual;

(2) In the case of a party that is not an individual, an officer or employee of the party appearing for the entity pro se or designated by the party's representative; or

(3) An individual whose presence is shown by a party to be essential to the presentation of its case, including an individual employed by the Corporation engaged in assisting the representative for the Corporation.

§ 1626.34 Evidence.

(a) The ALJ shall determine the admissibility of evidence.

(b) Except as provided in this part, the ALJ shall not be bound by the Federal Rules of Evidence (28 U.S.C. App.). However, the ALJ may apply the Federal Rules of Evidence where appropriate, e.g., to exclude unreliable evidence.

(c) The ALJ shall exclude irrelevant and immaterial evidence.

(d) Although relevant, evidence may be excluded if its probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues, or by considerations of undue delay or needless presentation of cumulative evidence.

(e) Although relevant, evidence may be excluded if it is privileged under Federal law.

(f) Evidence concerning offers of compromise or settlement shall be inadmissible to the extent provided in Rule 408 of the Federal Rules of Evidence.

(g) The ALJ shall permit the parties to introduce rebuttal witnesses and evidence.

(h) All documents and other evidence offered or taken for the record shall be open to examination by all parties, unless otherwise ordered by the ALJ pursuant to § 1626.24.

§ 1626.35 The record.

(a) The hearing will be recorded and transcribed. Transcripts may be obtained following the hearing from the ALJ at a cost not to exceed the actual cost of duplication.

(b) The transcript of testimony, exhibits, and other evidence admitted at the hearing, and all papers and requests filed in the proceeding constitute the record for the decision by the ALJ and the authority head.

(c) The record may be inspected and copied (upon payment of a reasonable fee) by anyone, unless otherwise ordered by the ALJ pursuant to § 1626.24.

§ 1626.36 Post-hearing briefs.

The ALJ may require the parties to file post-hearing briefs. In any event, any party may file a post-hearing brief. The ALJ shall fix the time for filing such briefs, not to exceed 60 days from the date the parties receive the transcript of the hearing or, if applicable, the stipulated record. Such briefs may be accompanied by proposed findings of fact and conclusions of law. The ALJ may permit the parties to file reply briefs.

§ 1626.37 Initial decision.

(a) The ALJ shall issue an initial decision based only on the record, which shall contain findings of fact, conclusions of law, and the amount of any penalties and assessments imposed.

(b) The findings of fact shall include a finding on each of the following issues:

(1) Whether the claims or statements identified in the complaint, or any portions thereof, violate § 1626.3; and

(2) If the person is liable for penalties or assessments, the appropriate amount of any such penalties or assessments considering any mitigating or aggravating factors that he or she finds in the case, such as those described in § 1626.31.

(c) The ALJ shall promptly serve the initial decision on all parties within 90 days after the time for submission of post-hearing briefs and reply briefs (if permitted) has expired. The ALJ shall at the same time serve all parties with a statement describing the right of any defendant determined to be liable for a civil penalty or assessment to file a motion for reconsideration with the ALJ or a notice of appeal with the authority head. If the ALJ fails to meet the deadline contained in this paragraph, he or she shall notify the parties of the reason for the delay and shall set a new deadline.

(d) Unless the initial decision of the ALJ is timely appealed to the authority head, or a motion for reconsideration of the initial decision is timely filed, the initial decision shall constitute the final decision of the authority head and shall be final and binding on the parties 30 days after it is issued by the ALJ.

§ 1626.38 Reconsideration of initial decision.

(a) Except as provided in paragraph (d) of this section, any party may file a motion for reconsideration of the initial decision within 20 days of receipt of the initial decision. If service was made by mail, receipt will be presumed to be 5 days from the date of mailing in the absence of contrary proof.

(b) Every such motion must set forth the matters claimed to have been erroneously decided and the nature of the alleged errors. Such motion shall be accompanied by a supporting brief.

(c) Responses to such motions shall be allowed only upon order of the ALJ.

(d) No party may file a motion for reconsideration of an initial decision that has been revised in response to a previous motion for reconsideration.

(e) The ALJ may dispose of a motion for reconsideration by denying it or by issuing a revised initial decision.

(f) If the ALJ denies a motion for reconsideration, the initial decision shall constitute the final decision of the authority and shall be final and binding on all parties 30 days after the ALJ denies the motion, unless the final decision is timely appealed to the authority head in accordance with section 1626.39.

(g) If the ALJ issues a revised initial decision, that decision shall constitute the final decision of the authority and shall be final and binding on the parties 30 days after it is issued, unless it is timely appealed to the authority head in accordance with section 1626.39.

§ 1626.39 Appeal to authority head.

(a) Any defendant who has filed a timely answer and who is determined in an initial decision to be liable for a civil penalty or assessment may appeal such decision to the authority head by filing a notice of appeal with the authority head in accordance with this section.

(b) (1) No notice of appeal may be filed until the time period for filing a motion for reconsideration under § 1626.38 has expired.

(2) If a motion for reconsideration is timely filed, a notice of appeal must be filed within 30 days after the ALJ denies the motion or issues a revised initial decision, whichever applies.

(3) If no motion for reconsideration is timely filed, a notice of appeal must be filed within 30 days after the ALJ issues the initial decision.

(4) The authority head may extend the initial 30 day period for an additional 30 days if the defendant files with the authority head a request for an extension within the initial 30 day period and shows good cause.

(c) If the defendant files a timely notice of appeal with the authority head, the ALJ shall forward the record of the proceeding to the authority head.

(d) A notice of appeal shall be accompanied by a written brief specifying exceptions to the initial decision and reasons supporting the exceptions.

(e) The representative for the Government may file a brief in opposition to exceptions within 30 days of receiving the notice of appeal and accompanying brief.

(f) There is no right to appear personally before the authority head.

(g) There is no right to appeal any interlocutory ruling by the ALJ.

(h) In reviewing the initial decision, the authority head shall not consider any objection that was not raised before the ALJ unless a demonstration is made of extraordinary circumstances causing the failure to raise the objection.

(i) If any party demonstrates to the satisfaction of the authority head that additional evidence not presented at such hearing is material and that there were reasonable grounds for the failure to present such evidence at such hearing, the authority head shall remand the matter to the ALJ for consideration of such additional evidence.

(j) The authority head may affirm, reduce, reverse, compromise, remand, or settle any penalty or assessment determined by the ALJ in any initial decision.

(k) The authority head shall promptly serve each party to the appeal with a copy of the decision of the authority head and a statement describing the right of any person determined to be liable for a penalty or an assessment to seek judicial review.

(l) Unless a petition for review is filed as provided in 31 U.S.C. 3805 after a defendant has exhausted all administrative remedies under this part and within 60 days after the date on which the authority head serves the defendant with a copy of the authority head's decision, a determination that a defendant is liable under § 1626.37 is final and is not subject to judicial review.

§ 1626.40 Stays ordered by the Department of Justice.

If at any time the Attorney General or an Assistant Attorney General designated by the Attorney General transmits to the authority head a written finding that continuation of the administrative process described in this part with respect to a claim or statement may adversely affect any pending or potential criminal or civil action related to such claim or statement, the authority head shall stay the process immediately. The authority head may order the process resumed only upon receipt of the written authorization of the Attorney General.

§ 1626.41 Stay pending appeal.

(a) An initial decision is stayed automatically pending disposition of a motion for reconsideration or of an appeal to the authority head.

(b) No administrative stay is available following a final decision of the authority head.

§ 1626.42 Judicial review.

Section 3508 of Title 31, United States Code, authorizes judicial review by an appropriate United States District Court of a final decision of the authority head imposing penalties or assessments under this part and specifies the procedures for such review.

§ 1626.43 Collection of civil penalties and assessments.

Sections 3806 and 3808(b) of Title 31, United States Code, authorize actions for collection of civil penalties and assessments imposed under this part and specify the procedures for such actions.

§ 1626.44 Right to administrative offset.

The amount of any penalty or assessment which has become final, or for which a judgment has been entered under § 1626.42 or § 1626.43, or any amount agreed upon in a compromise or settlement under § 1626.46, may be collected by administrative offset under 31 U.S.C. 3716, except that an administrative offset may not be made against a refund of an overpayment of Federal taxes, then or later owing by the United States to the defendant.

§ 1626.45 Deposit in Treasury of United States.

All amounts collected pursuant to this part shall be deposited as miscellaneous receipts in the Treasury of the United States, except as provided in 31 U.S.C. 3806(g).

§ 1626.46 Compromise or settlement.

(a) Parties may make offers of compromise or settlement at any time.

(b) The reviewing official has the exclusive authority to compromise or settle a case under this part at any time after the date on which the reviewing official is permitted to issue a complaint and before the date on which the ALJ issues an initial decision.

(c) The authority head has exclusive authority to compromise or settle a case under this part any time after the date on which the ALJ issues an initial decision, except during the pendency of any review under § 1626.42 or during the pendency of any action to collect penalties and assessments under § 1626.43.

(d) The Attorney General has exclusive authority to compromise or settle a case under this part during the pendency of any review under § 1626.42 or of any action to recover penalties and assessments under 31 U.S.C. 3806.

(e) The investigating official may recommend settlement terms to the reviewing official, the authority head, or the Attorney General, as appropriate. The reviewing official may recommend settlement terms to the authority head, or the Attorney General, as appropriate.

(f) Any compromise or settlement must be in writing.

§ 1626.47 Limitations.

(a) The notice of hearing with respect to a claim or statement must be served in the manner specified in § 1626.8 within 6 years after the date on which such claim or statement is made.

(b) If the defendant fails to file a timely answer, service of notice under § 1626.10(b) shall be deemed a notice of a hearing for purposes of this section.

(c) The statute of limitations may be extended by agreement of the parties.

By order of the Chief Executive Officer.

Dated at Washington, DC, this 24th day of June, 1993.

Resolution Trust Corporation.

William J. Tricarico,

Assistant Secretary.

[FR Doc. 93–15432 Filed 6–29–93; 8:45 am]

BILLING CODE 6714–01–M

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 92–ANE–58; Amendment 39–8606; AD 92–26–08]

Airworthiness Directives; Allied-Signal Inc., Garrett Engine Division, TPE331 Series Turboprop and Model TSE331–3U Turboshaft Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule, request for comments.

SUMMARY: This document publishes in the **Federal Register** an amendment adopting Airworthiness Directive (AD) 92–26–08 that was sent previously to all known U.S. owners and operators of Allied-Signal Inc., Garrett Engine Division, TPE331 series turboprop and Model TSE331–3U turboshaft engines by individual letters. This AD requires replacing third stage stator assemblies with serviceable assemblies, and maintaining a record of accumulated operating hours and cycles on a life limited part log card and maintenance record. This amendment is prompted by reports of a Hastelloy S material inner seal support in a third stage stator assembly that moved aft and made contact with the third stage turbine wheel, resulting in an uncontained engine failure. The actions specified by this AD are intended to prevent an uncontained failure of the third stage turbine wheel.

DATES: Effective July 15, 1993, to all persons except those persons to whom it was made immediately effective by priority letter AD 92–26–08, issued on December 16, 1992, which contained the requirements of this amendment.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of July 15, 1993.

Comments for inclusion in the Rules Docket must be received on or before August 30, 1993.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92–ANE–58, 12 New England Executive Park, Burlington, MA 01803–5299.

The applicable service information may be obtained from National Flight Services, Inc., 10971 E. Airport Service Road, Swanton, Ohio 43558; telephone (419) 865–2311. This information may be examined at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Joseph Costa, Aerospace Engineer, Propulsion Branch, ANM–140L, Los Angeles Aircraft Certification Office, Transport Airplane Directorate, Aircraft Certification Service, FAA, 3229 East Spring Street, Long Beach, California 90806–2425; telephone (310) 988–5246; fax (310) 988–5210.

SUPPLEMENTARY INFORMATION: On December 16, 1992, the Federal Aviation Administration (FAA) issued priority letter AD 92–26–08, applicable to Allied-Signal Inc., Garrett Engine Division, TPE331 series turboprop and Model TSE331–3U turboshaft engines, which requires replacing third stage stator assemblies with serviceable assemblies, and maintaining a record of accumulated operating hours and cycles on a life limited part log card and maintenance record. That action was prompted by reports of a Hastelloy S material inner seal support in a third stage stator assembly, Part Number (P/N) 868379–3, that moved aft and made contact with the third stage turbine wheel, resulting in an uncontained engine failure. In reports of other incidents, several Hastelloy S material inner seal supports exhibited numerous circumferential cracks prior to achieving the FAA approved life limit.

Haynes 25 material is the approved material used in the manufacture and repair of P/N 868379–3 third stage stator assemblies. The FAA has determined that 283 third stage stator assemblies were repaired at National Flight Services between February 20, 1990, and April 6, 1992. An undetermined number of these third stage stator assemblies were repaired using Hastelloy S material. The FAA has determined that the Hastelloy S material has approximately one-sixth of the expected fatigue life in this particular application. This condition, if not corrected, can result in an uncontained failure of the third stage turbine wheel.

The FAA has reviewed and approved the technical contents of National Flight Services Alert Bulletin No. NF331–A72–11921, dated November 9, 1992, that describes procedures for replacing third stage stator assemblies with serviceable assemblies.

Since the unsafe condition described is likely to exist or develop on other engines of the same type design, the FAA issued priority letter AD 92–26–08 to prevent an uncontained failure of the third stage turbine wheel. The AD requires replacing third stage stator assemblies listed by serial number in National Flight Services Alert Bulletin No. NF331–A72–11921, dated November 9, 1992, with serviceable assemblies, and maintaining a record of accumulated operating hours and cycles on a life limited part log card and maintenance record. The actions are required to be accomplished in accordance with the service bulletin described previously.

Since it was found that immediate corrective action was required, notice and opportunity for prior public comment thereon were impracticable and contrary to the public interest, and good cause existed to make the AD effective immediately by individual letters issued on December 16, 1992, to all known U.S. owners and operators of Allied-Signal Inc., Garrett Engine Division, TPE331 series turboprop and Model TSE331–3U turboshaft engines. These conditions still exist, and the AD is hereby published in the **Federal Register** as an amendment to § 39.13 of part 39 of the Federal Aviation Regulations (FAR) to make it effective to all persons.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are

invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption **ADDRESSES**. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 92–ANE–58." The postcard will be dated stamped and returned to the commenter.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation and that it is not considered to be major under Executive Order 12291. It is impracticable for the agency to follow the procedures of Order 12291 with respect to this rule since the rule must be issued immediately to correct an unsafe condition in aircraft. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption **ADDRESSES**.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends 14 CFR part 39 of the Federal Aviation Regulations as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

92–26–08 Allied-Signal Inc., Garrett Engine Division: Amendment 39–8606. Docket 92–ANE–58.

Applicability: Allied-Signal Inc., Garrett Engine Division, Model TPE331–1, –2, –2UA, –3U, –3UW, –5, –5A, –6, and –6A turboprop and Model TSE331–3U turboshaft engines incorporating third stage stator assemblies, Part Number (P/N) 868379–3, repaired at National Flight Services between February 20, 1990, and April 6, 1992, and identified by serial numbers listed in National Flight Services Alert Bulletin No. NF331–A72–11921, dated November 9, 1992. These engines are installed on but not limited to Mitsubishi MU–2B series (MU–2 series); Construcciones Aeronauticas, S.A. (CASA) C–212 series; Fairchild SA226 series (Swearingen Merlin and Metro series; Prop-Jets, Inc. Model 400; Twin Commander 680 and 690 (Jetprop Commander), Rockwell Commander S–2R, Shorts Brothers and Harland, Ltd. SC7 (Skyvan), Dornier 228 series, Beech 18 and 45 series and Models JRB–6, 3N, 3NM, 3TM, and B100, Pilatus PC–6 series (Fairchild Porter, Peacemaker), De Havilland Model DH 104 series 7AXC (Dove), and Ayres S–2R series airplanes; and Sikorsky S–55 series helicopters.

Compliance: Required as indicated, unless accomplished previously.

To prevent an uncontained failure of the third stage turbine wheel, accomplish the following:

(a) Replace affected third stage stator assemblies, P/N 868379–3, with serviceable assemblies in accordance with the following schedule:

Third stage stator cycles in service since repair by National Flight Services	Replacement schedule
900 or more cycles	Within 50 cycles in service after the effective date of this AD.
450 to 899 cycles	Within 150 cycles in service after the effective date of this AD, but not to exceed 950 cycles.
Less than 450 cycles	Prior to accumulating 600 cycles.

Note: The FAA has determined that cracking of third stage stator assemblies is related to operating cycles, rather than operating hours.

(b) If cycles cannot be determined, calculate cycles by multiplying third stage stator assembly hours time in service by 1.5.

(c) An alternative method of compliance or adjustment of the initial compliance time that provides an acceptable level of safety may be used if approved by the Manager, Los Angeles Aircraft Certification Office. The request should be forwarded through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Los Angeles Aircraft Certification Office.

Note: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Los Angeles Aircraft Certification Office.

(d) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate the aircraft to a location where the requirements of this AD can be accomplished.

(e) Third stage stator assemblies, P/N 868379–3, repaired at National Flight Services between February 20, 1990, and April 6, 1992, are identified by serial numbers listed in the following alert bulletin:

Document No.	Pages	Date
NF331–A72–11921	1–10	Nov. 9, 1992

Total pages: 10.

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from National Flight Services, Inc., 10971 E. Airport Service Road, Swanton, Ohio 43558; telephone (419) 865–2311. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street NW., suite 700, Washington, DC.

(f) This amendment becomes effective July 15, 1993, to all persons except those persons to whom it was made immediately effective by priority letter AD 92–26–08, issued December 16, 1992, which contained the requirements of this amendment.

Issued in Burlington, Massachusetts, on June 18, 1993.

Jack A. Sain,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 93–15355 Filed 6–29–93; 8:45 am]

BILLING CODE 4910–13–P

Office of the Secretary

14 CFR Part 302

[OST Docket No. 82; Amdt. 302–74]

Rules of Practice in Proceedings; Clarification

AGENCY: Office of the Secretary, DOT.

ACTION: Final rule.

SUMMARY: The purpose of this amendment is to clarify that, when an application to conduct scheduled airline operations is referred to a DOT decisionmaker, the decisionmaker shall be advised on the merits of the application by the Office of the General Counsel and not necessarily the Assistant General Counsel for International Law.

EFFECTIVE DATE: The effective date of this amendment is June 30, 1993.

FOR FURTHER INFORMATION CONTACT: Robert I. Ross, Office of the General Counsel, Department of Transportation, Washington, DC (202) 366–9154.

SUPPLEMENTARY INFORMATION: When an application to conduct scheduled airline operations is referred to a DOT decisionmaker, DOT's internal procedures dictate that advice on the merits of such application be given to the decisionmaker by, among others, the Office of the General Counsel. Those procedures further provide that, where the application is to conduct international operations, the advice is to be given by the Assistant General Counsel for International Law, and where the application is to conduct domestic operations, by the Assistant General Counsel for Environmental, Civil Rights, and General Law. By error, when this function was transferred to DOT from the former Civil Aeronautics Board (CAB), the public procedure (14 CFR 302.1760) referenced only the Assistant General Counsel for International Law, since the antecedent of that official at the CAB handled both matters. The purpose of this amendment is to conform the public procedure, which is incorrect, to the internal, which is correct, by providing, without further specifying, that the advice shall come from the Office of the General Counsel. Since this amendment relates to Departmental management, procedures, and practice, notice and comment on it are unnecessary and it may be made effective in fewer than thirty days after publication in the **Federal Register**. Any domestic case to which § 302.1760 applies that is pending at the time this amendment takes effect shall be subject, as was intended, to the internal procedure. Also, the title of the Director of Aviation Operations has been changed to Director of Aviation Analysis; conforming changes are made by this amendment.

List of Subjects in 14 CFR Part 302

Administrative practice and procedure, Air carriers, Postal Service.

In consideration of the foregoing, part 302 of title 14, Code of Federal Regulations, is amended as follows:

1. The authority citation continues to read as follows:

Authority: Secs. 204, 401–419, 901, 903, 1001, 1002, and 1007, Public Law 85–726, as amended; 72 Stat. 743, 754, 757, 758, 760, 763, 766, 767, 768, 769, 770, 771, 783, 786, 788, 796; 76 Stat. 145; 91 Stat. 1284; 92 Stat. 1732 (49 U.S.C. app. 1324, 1371–1389, 1471, 1473, 1481, 1482, and 1487; 18 U.S.C. 20 (b), (c); 49 U.S.C. subtitle I.

2. In section 302.1760, "Director of Aviation Analysis" is substituted for "Director, Office of Aviation Operations" in paragraph (a), and the first sentence of paragraph (b) is revised to read as follows:

§ 302.1760 Internal procedures.

* * * * *

(b) In deciding each case under this subpart on the merits, the DOT decisionmaker will receive a recommendation from the Director, Office of Aviation Analysis, and the Office of the General Counsel. * * *

Issued in Washington, DC, on June 23, 1993.

Federico F. Pena,

Secretary of Transportation.

[FR Doc. 93–15368 Filed 6–29–93; 8:45 am]

BILLING CODE 4910–62–P

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Office of the Secretary

24 CFR Part 27

[Docket No. R–93–1667; FR–3368–F–01]

RIN 2502–AF88

Nonjudicial Foreclosure of Multifamily Mortgages

AGENCY: Office of the Secretary, HUD.

ACTION: Final rule.

SUMMARY: Section 517 of the Housing and Community Development Act of 1992 amends the Multifamily Foreclosure Act of 1981 by expanding the HUD programs subject to that Act. This final rule implements section 517 by amending the regulations covering the Multifamily Foreclosure Act of 1981.

EFFECTIVE DATE: July 30, 1993.

FOR FURTHER INFORMATION CONTACT: John P. Kennedy, Associate General Counsel, Office of Program Enforcement, room 10270, Department of Housing and Urban Development, 451 Seventh Street, SW., Washington, DC 20410, telephone (202) 708–2568. Hearing or speech-impaired individuals may call HUD's TDD number (202) 708–3259. (These telephone numbers are not toll-free.)

SUPPLEMENTARY INFORMATION:

I. Background

Section 517 of the Housing and Community Development Act of 1992, Pub. L. 102–550, approved October 28, 1992 (1992 HCD Act), amends the Multifamily Mortgage Foreclosure Act of 1981 (codified at 12 U.S.C. 3701–3717), by expanding the HUD programs subject to that Act. As originally enacted, the Multifamily Foreclosure Act of 1981 established a statutory nonjudicial procedure for foreclosing defaulted multifamily mortgages held by the Secretary pursuant to title II of the National Housing Act (12 U.S.C. 1701–1715z–20), or section 312 of the Housing Act of 1964 (42 U.S.C. 1452b).

On February 24, 1984, the Department added part 27 to title 24 of the Code of Federal Regulations (49 FR 7072), implementing the Multifamily Mortgage Foreclosure Act of 1981. The procedure for foreclosing multifamily properties set out in the legislation and implementing regulations is similar to the foreclosure procedures used in states whose laws authorize nonjudicial foreclosure.

Section 517 of the 1992 HCD Act expands the coverage of the Multifamily

Foreclosure Act of 1981 to include defaulted multifamily mortgages held by the Secretary pursuant to:

(a) Section 608 of the National Housing Act (12 U.S.C. 1743);

(b) Section 801 of the National Housing Act (12 U.S.C. 1748);

(c) Title II of the National Housing Act (12 U.S.C. 1707–1715z–20);

(d) Title X of the National Housing Act (12 U.S.C. 1749aa);

(e) Section 312 of the Housing Act of 1964, as it existed immediately before its repeal by section 289 of the Cranston-Gonzalez National Affordable Housing Act (hereafter referred to as "NAHA;" codified at 42 U.S.C. 1452b);

(f) Section 202 of the Housing Act of 1959, as it existed immediately before its amendment by section 801 of the NAHA (12 U.S.C. 1701q),

(g) Section 202 of the Housing Act of 1959, as amended by section 801 of the NAHA (12 U.S.C. 1701q); and

(h) Section 811 of the NAHA (42 U.S.C. 8013).

The Department interprets the reference to section 202 of the Housing Act of 1959, "as it existed immediately before its amendment by section 801 of the NAHA," in contrast to "as amended by section 801 of the NAHA" to distinguish the section 202 loan program from the section 202 capital advance program. (Under the section 202 loan program, the Department made a direct loan to the borrower, amortized over 40 years and with a set interest rate. The section 202 capital advance program is a program in which the Department advances funds (a "capital advance") which bear no interest and require no repayment so long as the project remains available for very low-income elderly persons for at least 40 years.)

In addition to expanding the coverage of the Multifamily Foreclosure Act, section 517 also modifies the definition of multifamily mortgage by removing the phrase "covering any property, except a property on which there is located a one-to four-family residence." However, because the title of the Act and the text within the Act continue to reference multifamily mortgages, the Department believes that Congress did not intend this definitional change to bring one-to four-family residences under title II of the National Housing Act within the coverage of the Multifamily Foreclosure Act. Rather, the Department believes that the phrase "covering any property, except a property on which there is located a one-to four-family residence" was removed because some multifamily projects under section 202 of the Housing Act of 1959, and section 811 of NAHA (e.g. group homes) could be considered one-to four-family residences.

To distinguish one-to four-family residences which are part of a section 202 or section 811 project from such residences under title II of the National Housing Act, the definition provides that the term "Multifamily mortgage" does not include a property on which there is located a one-to four-family residence, except when the one-to four-family residence is subject to a mortgage pursuant to section 202 of the Housing Act of 1959, or section 811 of the National Affordable Housing Act.

Finally, this rule contains four minor technical amendments to part 27 which are necessary because of the expanded coverage of the Multifamily Foreclosure Act.

II. Justification for Final Rule Making

In general, the Department publishes rules for public comment before their issuance for effect, in accordance with its own regulations on rulemaking, 24 CFR part 10. However, part 10 provides exceptions from that general rule where the agency finds good cause to omit advance notice and public participation. The good cause requirement is satisfied when prior public procedure is "impracticable, unnecessary, or contrary to the public interest" (24 CFR 10.1). The Department finds that good cause exists to publish this rule for effect without first soliciting public comment, in that prior public procedure is unnecessary because the Department is merely revising part 27 to implement statutory amendments that do not involve the exercise of any discretion by the Department.

Other Matters

A. Regulatory Impact

This rule does not constitute a "major rule" as that term is defined in section 1(b) of the Executive Order 12291 on Federal Regulations issued by the President on February 17, 1981. An analysis of the rule indicates that it does not (1) have an annual effect on the economy of $100 million or more; (2) cause a major increase in costs or prices for consumers, individual industries, federal, state, or local government agencies, or geographic regions; or (3) have a significant adverse effect on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

B. Environmental Impact

The policies and procedures contained in this rule relate only to the acquisition of multifamily properties by foreclosure and for that reason they are categorically excluded from the requirements of the National Environmental Policy Act, in accordance with the regulations of the Council on Environmental Quality at 40 CFR 1508.4 and HUD regulations at 24 CFR 50.20(i). These regulations provide for a categorical exclusion from NEPA requirements for the acquisition of an existing structure, where the property being acquired will be retained for the same use.

C. Executive Order 12612, Federalism

The General Counsel, as the Designated Official under section 6(a) of Executive Order 12612, Federalism, has determined that the policies contained in this proposed rule have federalism implications, and are subject to review under the order. Specifically, the rule provides for preemption of state foreclosure procedures for Secretary-held multifamily mortgages. While the rule has federalism aspects, a more comprehensive review under the Executive Order 12612 is not required because the Act expressly authorizes the Department to preempt state law. In promulgating this rule, the Department has restricted the regulatory preemption to the minimum level necessary to achieve the objectives of the Act.

D. Executive Order 12606, the Family

The General Counsel, as the Designated Official under Executive Order 12606, The Family, has determined that this rule does not have potential for significant impact on family formation, maintenance, and general well-being, and, thus, is not subject to review under the order. No significant change in existing HUD policies or programs will result from promulgation of this rule, as those policies and programs relate to family concerns.

E. Regulatory Flexibility Act

The Secretary, in accordance with the Regulatory Flexibility Act (5 U.S.C. 605(b)) has reviewed and approved this rule, and in so doing certifies that this rule will not have a significant economic impact on a substantial number of small entities. This rule only affects defaulting mortgagor entities, whose mortgages are foreclosed by the Secretary under the provisions of this rule. Such entities will not constitute a significant number of the mortgagors of Secretary-held mortgages.

F. Regulatory Agenda

This final rule was listed as sequence number 1449 in the Department's Semiannual Agenda of Regulations published on April 26, 1993 (58 FR 24382, 24411) in accordance with Executive Order 12291 and the Regulatory Flexibility Act.

G. The Catalog of Federal Domestic Assistance program number(s) are 14.103, 14.112, 14.116, 14.123, 14.126, 14.127, 14.128, 14.129, 14.134, 14.135, 14.138, 14.139, 14.149, 14.151, 14.155, 14.157, 14.167, 14.173, 14.181.

List of Subjects in 24 CFR part 27

Administrative practice and procedure, Loan programs—housing and community development.

Accordingly, 24 CFR part 27 is amended as follows:

PART 27—NONJUDICIAL FORECLOSURE OF MULTIFAMILY MORTGAGES

1. The authority citation for 24 CFR part 27 is revised to read as follows:

Authority: 12 U.S.C. 3701–3717; 42 U.S.C. 3535(d).

2. Section 27.1 is amended by revising the second sentence to read as follows:

§ 27.1 Purpose

* * * The Act creates a uniform Federal remedy for foreclosure of multifamily mortgages. * * *

3. Section 27.3 is amended by revising the definition of "Multifamily mortgage" to read as follows:

§ 27.3 Definitions

* * * * *

Multifamily mortgage means a mortgage held by the Secretary, covering any property pursuant to:

(1) Section 608 of the National Housing Act (12 U.S.C. 1743);

(2) Section 801 of the National Housing Act (12 U.S.C. 1748);

(3) Title II of the National Housing Act (12 U.S.C. 1707–1715z–20);

(4) Title X of the National Housing Act (12 U.S.C. 1749aa);

(5) Section 312 of the Housing Act of 1964, as it existed immediately before its repeal by section 289 of the Cranston-Gonzalez National Affordable Housing Act (42 U.S.C. 1452b);

(6) Section 202 of the Housing Act of 1959, as it existed immediately before its amendment by section 801 of the Cranston-Gonzalez National Affordable Housing Act (12 U.S.C. 1701q);

(7) Section 202 of the Housing Act of 1959, as amended by section 801 of the Cranston-Gonzalez National Affordable Housing Act (12 U.S.C. 1701q); and

(8) Section 811 of the Cranston-Gonzalez National Affordable Housing Act (42 U.S.C. 8013).

Multifamily mortgage does not include a property on which there is located a one- to four-family residence, except when the one- to four-family residence is subject to a mortgage pursuant to section 202 of the Housing Act of 1959, or section 811 of the National Affordable Housing Act. The definition of multifamily mortgage also includes a mortgage taken by the Secretary in connection with the previous sale of the project by the Secretary (purchase money mortgage).

* * * * *

4. In section 27.5 the last sentence in paragraph (a) is revised to read as follows:

§ 27.5 Prerequisites to foreclosure.

(a) * * * Nothing in this part shall preclude the Secretary from foreclosing under this part where the Secretary has obtained or is seeking any other remedy available pursuant to Federal or State Law or under the mortgage agreement, including, but not limited to the appointment of a receiver; mortgagee-in-possession status; relief under an assignment of rents; or transfer to a nonprofit entity in accordance with section 202 of the Housing Act of 1959 (as amended by section 801 of the Cranston-Gonzalez National Affordable Housing Act), or section 811 of the Cranston-Gonzalez National Affordable Housing Act.

* * * * *

5. Section 27.20 is amended by revising paragraphs (a), (b)(1), (c)(1) and (c)(3) and by adding (c)(5) to read as follows:

§ 27.20 Conditions of foreclosure sale.

(a) If a majority of the residential units in a property subject to foreclosure sale pursuant to this part are occupied by residential tenants either on the date of the foreclosure sale or on the date on which the General Counsel designates the foreclosure commissioner, the Secretary shall require, as a condition and term of the sale, that the purchaser at a foreclosure sale (other than the Secretary) agree to continue to operate the project in accordance with the terms of the program under which the mortgage insurance or assistance was provided, or any applicable regulatory or other agreement in effect with respect to such property immediately prior to the time of foreclosure sale as the Secretary shall find appropriate. If a majority of the residential units are not so occupied, at either such time, the Secretary, in his or her discretion, may require as a condition and term of the sale, that the purchaser (other than the Secretary) agree to continue to operate the property in accordance with such terms described above as the Secretary shall find appropriate.

(b) * * *

(1) The history of the project, including the purposes of the program under which the mortgage insurance or assistance was provided, and any other program of HUD under which the project was developed or otherwise assisted and the probable causes of project failure resulting in its default;

* * * * *

(c) * * *

(1) If the mortgage being foreclosed was previously insured by the Secretary under section 608, or 801, or title II or X of the National Housing Act; or assisted under section 202 of the Housing Act of 1959, as it existed before its amendment by section 801 of the Cranston-Gonzalez National Affordable Housing Act, any terms required by the Secretary pursuant to this section shall be in effect no longer than the earliest date on which the mortgagor could have prepaid the mortgage debt without the Secretary's consent, or the maturity date of the mortgage, whichever is earlier. No terms shall be required pursuant to this section, if, under the terms of the mortgage, the mortgagor could have prepaid the mortgage debt in full without the Secretary's consent on or before the date of the foreclosure sale.

* * * * *

(3) If the mortgage being foreclosed covers a project which is governed by a use agreement executed under section 1(d)(1) of the Housing and Community Development Amendments of 1978, as amended (12 U.S.C. 1715z–1a); section 202 of the Housing Act of 1959, as amended by section 801 of the Cranston-Gonzalez National Affordable Housing Act (12 U.S.C. 1701q); section 811 of the Cranston-Gonzalez National Affordable Housing Act (42 U.S.C. 8013); or section 225(b) of the Emergency Low Income Housing Preservation Act of 1987 (12 U.S.C. 17151), any terms required by the Secretary under this section shall be in effect no longer than the maturity date of the mortgage.

(4) * * *

* * * * *

(5) If the mortgage being foreclosed covers a project which is governed by a use agreement executed under section 222(b) of the Low-Income Housing Preservation and Resident Homeownership Act of 1990 (12 U.S.C. 4112), any terms required by the Secretary under this section shall be in effect for the remaining useful life of the

project. Remaining useful life has the same meaning given the term in 24 CFR 248.101.

* * * * *

Dated: May 20, 1993.

Henry G. Cisneros,

Secretary of Housing and Urban Development.

[FR Doc. 93–15102 Filed 6–29–93; 8:45 am]

BILLING CODE 4210-32-M

DEPARTMENT OF THE TREASURY

Internal Revenue Service

26 CFR Part 1

[T.D. 8480]

RIN 1545–AR41

Extension of Time for Making a Valid Election to Exclude Foreign Earned Income and Housing Cost Amounts

AGENCY: Internal Revenue Service, Treasury.

ACTION: Final regulations.

SUMMARY: This document contains final Income Tax Regulations relating to the application of section 911 with respect to the requirement of a return in order to make a valid election to exclude foreign earned income and the housing cost amount. These regulations will provide the public with guidance necessary to comply with the Economic Recovery Tax Act of 1981 and will affect individuals claiming the foreign earned income exclusion and the housing cost amount.

DATES: Effective June 30, 1993. These regulations apply to taxable years beginning after December 31, 1981.

FOR FURTHER INFORMATION CONTACT: Leslie B. van der Wal of the Office of Associate Chief Counsel (International), Internal Revenue Service, 202–622–3850, (not a toll-free number).

SUPPLEMENTARY INFORMATION:

Background

This document contains amendments to part 1 of the Income Tax Regulations under section 911 of the Internal Revenue Code of 1986 (Code). These amendments will provide the public with guidance necessary to comply with the Economic Recovery Tax Act of 1981.

Explanation of Provisions

Section 911(a) provides that at the election of a qualified individual, there shall be excluded from gross income and exempt from tax the foreign earned income and the housing cost amount of such individual.

Section 1.911–7(a) provides that in order to receive either exclusion provided by section 911(a), a qualified individual must separately elect each exclusion. The election may be made on Form 2555 or on a comparable form. Section 1.911–7(a)(2)(i) provides that in order to make a valid election, the election must be made (A) with an income tax return that is timely filed (including any extensions of time to file), (B) with a later return filed within the period described in section 6511(a) amending the foregoing timely filed income tax return, or (C) with an original income tax return that is filed within one year after the due date of the return (determined without regard to any extension of time to file). The one-year period in (C) above does not constitute an extension of time for any purpose; it is merely a period during which a valid election may be made on a late return.

Section 1.911–7(a)(2)(i)(D) is added to provide that a qualified individual may make an election at dates later than provided in paragraphs (a)(2)(i)(A), (B) and (C) in two situations. If the taxpayer owes no federal income tax after taking into account the exclusion, the taxpayer may file under this paragraph (a)(2)(i)(D)(*1*) Form 1040 with Form 2555 or a comparable form attached either before or after the Internal Revenue Service discovers that the taxpayer failed to elect the exclusion. If, however, the taxpayer owes federal income tax after taking into account the exclusion, the taxpayer may file under paragraph (a)(2)(i)(D)(*2*) Form 1040 with Form 2555 or a comparable form attached provided the filing is before the Internal Revenue Service discovers that the taxpayer failed to elect the exclusion. Paragraph (a)(2)(i)(D)(*3*) provides that a taxpayer who files an income tax return pursuant to (a)(2)(i)(D)(*1*) or (*2*) must state at the top of the return that the return was filed pursuant to § 1.911–7(a)(2)(i)(D). This change shall apply to taxable years beginning after December 31, 1981.

Special Analyses

It has been determined that these rules are not major rules as defined in Executive Order 12291. It has further been determined that immediate guidance in this area is necessary. The issuance of this regulation removes a temporal restriction presently imposed on taxpayers by allowing them to claim a benefit without making a timely election. Therefore, it has been determined pursuant to 5 U.S.C. 553(b)(B) that good cause exists to dispense with prior notice and public procedure. Because no notice of proposed rulemaking is required for this rule, the provisions of the Regulatory Flexibility Act (5 U.S.C. chapter 6) do not apply. Pursuant to section 7805(f) of the Internal Revenue Code, a copy of these regulations has been submitted to the Chief Counsel for Advocacy of the Small Business Administration for comment on their impact on small business.

Drafting Information

The principal author of these regulations is Leslie B. van der Wal of the Office of Associate Chief Counsel (International), Internal Revenue Service. However, other personnel from the Internal Revenue Service and Treasury Department participated in their development.

List of Subjects in 26 CFR Part 1

Income taxes, Reporting and recordkeeping requirements.

Amendments to the Regulations

Accordingly, 26 CFR part 1 is amended as follows:

PART 1—INCOME TAXES

Paragraph 1. The authority citation for part 1 is amended by adding a citation in numerical order to read as follows:

Authority: 26 U.S.C. 7805 * * * Section 1.911–7 also issued under 26 U.S.C. 911(d)(9). * * *

Par. 2. Section 1.911–7(a)(2)(i) is amended as follows:

1. Paragraph (a)(2)(i)(B) is amended by removing the word "or" at the end of the sentence.

2. Paragraph (a)(2)(i)(C) is amended by removing the period at the end of the sentence and by adding the language ", or" in its place.

3. Paragraph (a)(2)(i)(D) is added.

4. The added provision reads as follows:

§ 1.911–7 Procedural rules.

(a) * * *

(2) * * * (i) * * *

* * * * *

(D) With an income tax return filed after the period described in paragraphs (a)(2)(i)(A), (B), or (C) of this section provided—

(*1*) The taxpayer owes no federal income tax after taking into account the exclusion and files Form 1040 with Form 2555 or a comparable form attached either before or after the Internal Revenue Service discovers that the taxpayer failed to elect the exclusion; or

(*2*) The taxpayer owes federal income tax after taking into account the

exclusion and files Form 1040 with Form 2555 or a comparable form attached before the Internal Revenue Service discovers that the taxpayer failed to elect the exclusion.

(3) A taxpayer filing an income tax return pursuant to paragraph (a)(2)(i)(D)(1) or (2) of this section must type or legibly print the following statement at the top of the first page of the Form 1040: "Filed Pursuant to Section 1.911–7(a)(2)(i)(D)."

* * * * *

Michael P. Dolan,

Commissioner of Internal Revenue.

Approved: June 16, 1993.

Leslie Samuels,

Assistant Secretary of the Treasury.

[FR Doc. 93–15304 Filed 6–29–93; 8:45 am]

BILLING CODE 4830–01–U

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26 CFR Part 301

[T.D. 8481]

RIN 1545–AR14

Extension of Time for Making Elections

AGENCY: Internal Revenue Service, Treasury.

ACTION: Final regulations.

SUMMARY: This document amends the Treasury Regulations concerning the extension of time for making certain elections or applications for relief under the Internal Revenue Code. This document generally conforms the regulations to the new standards that the Commissioner of the Internal Revenue Service will use to grant taxpayers extensions of time for making elections or applications for relief. This document is intended to foster greater compliance by providing an administrative means for taxpayers to correct certain errors.

EFFECTIVE DATE: April 5, 1991.

FOR FURTHER INFORMATION CONTACT: Barbara B. Walker 202–622–3060 (not a toll-free number).

SUPPLEMENTARY INFORMATION:

Background

This document contains final amendments to § 301.9100–1 of the Procedure and Administration Regulations. Section 301.9100–1 was adopted in 1959 (24 FR 1206) and was amended in 1970 (35 FR 17840) and in 1991 (56 FR 64980) under the authority of section 7805(a) of the Internal Revenue Code (Code). Section 301.9100–1 concerns extensions of time for making certain elections or applications for relief where the time is not expressly prescribed by statute.

Explanation of Provisions

Under § 301.9100–1(a), the Commissioner has the discretion to grant a reasonable extension of time for making an election when the time for making the election is not expressly prescribed by statute.

Section 301.9100–1(b) of the regulations, as amended in 1991, contained a special transitional rule that applied to elections or applications for relief under subtitles B, C, D, and F, required to be made prior to April 5, 1991. The rule required taxpayers to request relief by the later of October 2, 1991, or the date that was one year after the date the election or application was required to be made and to show clear evidence of intent to make the election. The deadline for requesting relief and the intent requirement in the special transitional rule were consistent with the Service's general practice, at that time, of granting relief under § 301.9100–1(a) only if a taxpayer requested relief within one year of the missed election and could demonstrate an intent to timely make the election.

In 1992, the Service modified the standards for granting relief under § 301.9100–1(a) by issuing Rev. Proc. 92–85, 1992–42 I.R.B. 32, and eliminating the intent requirement and the one-year general practice described in the preceding paragraph for elections covered by that section. These regulations generally conform the standards for relief for elections previously covered by the special transitional rule to the new standards for relief under § 301.9100–1(a) by eliminating the special transitional rule for all elections other than those under section 4980A(f)(5) of the Code. Thus, even if a taxpayer could not satisfy the requirements of the special transitional rule for such elections, relief will be granted as long as the taxpayer satisfies the requirements of § 301.9100–1(a).

Section 4980A of the Code, enacted by the Tax Reform Act of 1986, imposes a 15 percent excise tax on certain pension plan distributions or accumulations. If the value of the taxpayer's pension benefit, determined as of August 1, 1986, equals or exceeds $562,500, the taxpayer could have elected to exclude that amount from taxation under section 4980A. Section 4980A(f)(5) provides that these elections must have been made on an individual's income or estate tax return for a taxable year beginning before January 1, 1989. The purpose of these elections was to provide a transition for the new excise taxes. An exception is made for section 4980A(f)(5) elections because they are one-time transitional elections that present special opportunities for retroactive tax planning.

Special Analyses

It has been determined that these rules are not major rules as defined in Executive Order 12291. Therefore, a Regulatory Impact Analysis is not required. It has also been determined that section 553(b) of the Administrative Procedure Act (5 U.S.C. chapter 5) and the Regulatory Flexibility Act (5 U.S.C. chapter 6) do not apply to these regulations; therefore, a Regulatory Flexibility Analysis is not required. Pursuant to section 7805(f) of the Code, a copy of these regulations was submitted to the Chief Counsel for Advocacy of the Small Business Administration for comment on their impact on small business.

Drafting Information

The principal author of these regulations is Barbara B. Walker, Office of the Assistant Chief Counsel (Passthroughs and Special Industries), Internal Revenue Service. However, personnel from other offices of the IRS and Treasury Department participated in their development.

List of Subjects in 26 CFR Part 301

Administrative practice and procedure, Alimony, Bankruptcy, Child support, Continental shelf, Courts, Crime, Employment taxes, Estate taxes, Excise taxes, Gift taxes, Income taxes, Investigations, Law enforcement, Oil pollution, Penalties, Pensions, Reporting and recordkeeping requirements, Seals and insignia, Statistics, Taxes.

Adoption of Amendments to the Regulations

Accordingly, 26 CFR part 301 is amended as follows:

Paragraph 1. The authority citation for part 301 continues to read in part as follows:

Authority: 26 U.S.C. 7805 * * *

Par. 2. Section 301.9100–1(b) is revised to read as follows:

§ 301.9100–1 Extension of time for making certain elections.

* * * * *

(b) *Special transitional rule for section 4980A(f)(5) elections.* Taxpayers may request relief under this paragraph (b) for section 4980A(f)(5) elections for any year as to which the period of limitations has not expired. Requests for relief must be filed with the Commissioner by October 2, 1991. In addition to satisfying all other requirements for relief, a taxpayer must

demonstrate clear evidence of intent to make the election at the time it was required to be made.

* * * * *

Shirley D. Peterson,
Commissioner of Internal Revenue.

Approved: April 16, 1993.

James Fields,
Acting Assistant Secretary of the Treasury.

[FR Doc. 93–15303 Filed 6–29–93; 8:45 am]

BILLING CODE 4830–01–M

POSTAL SERVICE

39 CFR Part 111

Restructuring and Revision of the Domestic Mail Manual

AGENCY: Postal Service.

ACTION: Interim rule.

SUMMARY: At the request of postal customers, the Postal Service has restructured and revised the Domestic Mail Manual (DMM) to make it easier to use. As part of this effort, internal postal operating procedures and recommendations for voluntary customer actions are being published in a separate DMM publication. No substantive changes have been made in this revision.

EFFECTIVE DATE: July 1, 1993.

ADDRESSES: Written comments on this revision and suggestions for future changes should be mailed to the Manager, Mailing Standards, U.S. Postal Service, room 8430, 475 L'Enfant Plaza West, SW., Washington, DC 20260–2419.

FOR FURTHER INFORMATION CONTACT: Mr. Leo Raymond, (202) 268–5199.

SUPPLEMENTARY INFORMATION: In 1992, the Competitive Services Task Force, a joint working group of representatives of the Postal Service and the mailing industry chartered to propose improvements in postal services, recommended that the Postal Service revise and reorganize the Domestic Mail Manual (DMM) to make it simpler and easier to use. Acting on that recommendation, the Postal Service undertook, with guidance from focus groups of postal customers and postal employees and from the Mailers Technical Advisory Committee, to review the organization, style, format and content of the DMM to determine ways to accomplish the goal set by the Task Force.

Based on that review, the Postal Service determined to limit the content of the DMM to those regulations that specifically governed eligibility for and use of domestic postal services. Materials covering recommendations for voluntary customer action and internal instructions to postal employees were identified for future deletion from the DMM. These materials are being published in a separate part of the DMM entitled the Domestic Mail Manual Transition Book. The internal postal instructions and customer recommendations in this document will remain in full force and effect as DMM regulations for up to a year. This will allow the Postal Service time to make a more thorough review of their necessity and determine whether to incorporate them in other publications of the Postal Service, like the Postal Operations Manual, to publish them as mail classification rulings or to rescind them. The regulations in the DMM Transition Book are published in the same format as they appeared in Issue 45 of the DMM and remain essentially unchanged.

A major emphasis of the effort to revise the DMM was a reconsideration of the organization of the regulations. As a result of research on the methods used by other postal administrations and focus group interviews, the Postal Service determined to adopt a modular approach and a new numbering system to provide maximum flexibility to users of the manual. Under this approach, the regulations are organized by subject matter instead of class of mail as in past issues. The manual is organized in the following twelve modules:

I—Introduction and Index
G—General Information
R—Rates and Fees
E—Eligibility
C—Characteristics and Content
A—Addressing
M—Mail Preparation and Sortation
L—Labeling Lists
S—Special Services
P—Postage and Payment Methods
D—Deposit, Collection, and Delivery
F—Forwarding and Related Services

A new alphanumeric numbering system is also adopted for Issue 46. This numbering system and the new loose-leaf structure will permit the user to reorganize the regulations by class of mail or along other lines of interest to best suit its particular needs. The basic element of the new format is the unit, identified by a letter and three digits. The letter represents the module name, and the first digit identifies a broad category, as follows:

000—Basic Information
100—First-Class Mail
200—Second-Class Mail
300—Third-Class Mail
400—Fourth-Class Mail
500—Express Mail
700—Special Situations
800—Automation-Compatible Mail
900—Services

Except as previously published in the **Federal Register**, this revision of the DMM contains no substantive changes to the requirements set forth in Issue 45 that mailers must meet to be eligible to use the domestic mail services of the Postal Service. All the changes in the DMM regulations that will appear in Issue 46 are editorial in nature. Issue 46 and the DMM Transition Book will be distributed to all subscribers to Issue 45. A cross-reference chart is included in the DMM Transition Book which shows the disposition of the regulations in Issue 45. For the convenience of the user, the cross-reference chart is reproduced below.

CROSS-REFERENCE TABLES

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
111.1	G020		
111.2	G011		
111.3	G020		
111.4	G020		
111.5	G020		
112	G011		
113	G011	113	
114	G011		
115	G012		
119	G013		

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
121	C010	121	
122.11	A010		
122.12	A010		
122.13	A010		
122.14	A010		
122.15	A010		
122.16			Deleted.
122.17	M011	122.17	
122.18	F030		
122.2	A010		
122.3		122.3	
122.4	A040		
122.44	A930		
122.5			Deleted.
122.61	A010		
122.62			Deleted.
122.63	A010		Text Only
122.63a	L001		Exhibits Only.
122.63b	L002		
122.63c	L003		
122.63d	L004		
122.63e	L101		
122.63f	L201		
122.63g	L701		
122.63h	L702		
122.63i	L202		
122.63j	L703		
122.63k	L704		
122.631	L705		
122.63m	L801		
122.63n	L802		
122.63o	L803		
122.63p	L203		
122.63q	L706		
122.63r	L707		
122.63s	L708		
122.63t	L804		
122.64			Deleted.
122.65			Deleted.
122.7	G030		
122.8	A010		
122.9	A010		
123.1	C010		
123.2	C010		
123.3	C010	123.3	
123.4	C031		
123.5	C032	123.5	
123.6	C033	123.6	
124.1	C041	124.1	
124.2	C021		
124.3	C042	124.3	
124.4	C021	124.4	
124.5	C022	124.5	
124.6	C023	124.6	
124.7	C024		
125	E010		
126	E020		
127.1	C010		
127.2	C010		
127.3	C050		
127.4	C010		
127.5	C010		
128	C050		
129	C024		
131	G020		
132	1042		
133	G020		
134	E030		
135	E040		
136.1	E070		
136.21	E070		

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
136.22	A010		
136.23	E070		
136.24	M071		
136.31	E070		
136.31	P071		
136.32	E070		
136.32	M071		
136.32	P071		
136.41	E070		
136.42	E070		
136.43	P071		
136.44			Deleted.
136.5	F010		
136.6	S070		
136.71	D071		
136.72	D070		
136.72	E070		
136.73	D070		
136.74			Deleted.
136.75	M072		
136.76	M072		
136.76	P072		
136.77	S500		
136.81	E070		
136.82			Deleted.
136.83	P071		
136.84	M071		
136.84	P071		
136.85	E070		
136.86	F010		
136.91	D070		
136.92	D070		
136.92	E070		
136.93	D070		
136.93	M072		
136.93	P072		
136.94	P072	136.94	
136.95	M072		
136.96	M072		
136.96	P072		
136.97	D070		
137.1	E050	137.1	
137.2	E060	137.2	
138	E080	138	
141	P021	141	
142	P022	142	
143	P023	143	
144.1	P030		
144.2	P030	144.2	
144.3	P030	144.3	
144.4	P030		
144.5	P030	144.5	
144.6		144.6	
144.7		144.7	
144.8	D072	144.8	
144.9	P030	144.9	
145.1	P040	145.1	
145.2	P040		
145.3	P040		
145.4	P040		
145.5	P040		
145.6	P040		
145.7	P710	145.7	
145.8	P720	145.8	
145.9	P730	145.9	
145.9	P790	145.9	
146	P011	146	
147	P014	147	
148	P011		
149	S010	149	
151	D041	151	

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
151.4			Del. 7/1/93.
152	D030	152	
153	D042	153	
154.1	D020		
154.2	D020		
154.3	D020		
154.4	M074		
154.5	M074		
154.6	D020		
154.7	D020	154.7	
154.8	D020		
155	D042	155	
156	D042	156	
157	D042	157	
158		158	
159.1	F010	159.1	
159.2	F020	159.2	
159.3	F030	159.3	
159.4	F010	159.4	
159.5	F010	159.5	
161	G900	161	
162	G900	162	
163	G900	163	
164	G900	164	
165		165	
166	G013	166	
171	G900	171	
172	G900		
173	G900	173	
174		174	
175		175	
176	G900	176	
210	E500		Text Only.
210	R500		Exhibit Only.
212	R500		In Exhibit 210.
213			Deleted.
214			Deleted.
215.1	E500		
215.1	R500		
215.2	E500		
215.2	R500		
216	E500		
221.1	E500		
221.2	E500		
221.3			Deleted.
221.4	E500		
222.1	E500		
222.2	M500	222.2	
222.3	D500		
222.4	D500		
222.5	D030		
223	D500		
223	E500		
224.1	E500		
224.2	E500	224.2	
224.3	D010		
224.4	D500		
225.1	E500		
225.2	E500		
225.3	D010		
225.4	D500		
226	D010		
226	D500		
226	E500		
227	D500		
230	D500		
240	E500		
242	E500		
250	C500		
252	C500		
260	M500		

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
270	D500	270	
272	D500		
273	D500	273	
281	P500		
282	P500		
283			Deleted.
284			Deleted.
285			Deleted.
286			Deleted.
287			Deleted.
291.1	F020	291.1	
291.2	F020	291.2	
291.3	F030	291.3	
292.1	F030	292.1	
292.2	F030		
292.3	F010	292.3	
293		293	
294	F030	294	
295.1	F010	295.1	
295.1	S500	295.1	
295.2	F010	295.2	
295.2	S500	295.2	
295.3	F010	295.3	
295.3	S500	295.3	
296.1	P014	296.1	
296.1	S500	296.1	
296.2	P014	296.2	
296.2	S500	296.2	
296.3	P014	296.3	
296.3	S500	296.3	
297	F010	297	
297	S500	297	
311.11	E110		
311.12	E110		
311.13	R100		
311.21	E110		
311.22	R100		
312	R100		
313.1	E110		
313.21	E110		
313.22	R100		
313.31	E110		
313.32	R100		
313.4			Reserved in #45.
313.5	R100		
313.6	E110		
313.6	R100		
313.7	R100		
313.8	R100		
314	E120		
314	R100		
315	R100		
321.1	E110		
321.2	E110		
321.3	C021		
322.1	E110		
322.2	C100		
322.3	C100		
322.4	E110		
323	E132		
324	E142		Parts exp. 3/20/93.
325	E144		Parts exp. 3/20/93.
326.1	E120		
326.2	M101		
326.3	E120		
326.4	E120		
326.5	D010		
327	E147		Parts exp. 3/20/93.
328.1	E148		
328.2	E149		
330	D100		

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
340	E110		
351	C100		
352	C100		
353	C100		
354	C024		
361	A010		
361	E131		
361	E132		
362.1	M101		
362.2	M103		
362.3	M102		
362.4	M818		
362.5	M812		
362.5	M813		
362.6	M814		
362.6	M815		
362.6	M816		
362.6	M823		
362.7	M819		
362.7	M827		
363	M031		
363	M033		
363	M101		
364			Exp. 3/20/93; Del.
365			Exp. 3/20/93; Del.
366			Exp. 3/20/93; Del.
367.1	M103		
367.2	M103		
367.3	M102		
367.4	M102		
367.5	M103		
368			Exp. 3/20/93; Del.
369.1	M013		
369.2	M032		
369.3	M032		
370	D100	370	
372	D100		
373	D100		
374	D100	374	
381	P100		
382	P100		
383	P100		
384	P013		
391	F010		
392.1	F010		
392.2	F010		
392.3	F030		
392.4			Deleted.
411.11	P013		
411.12	E212		
411.13	P013		
411.14	E231		
411.21	E212		
411.22	R200		
411.23	E212		
411.23	R200		
411.24	E212		
411.24	R200		
411.25	E212		
411.25	R200		
411.31	E212		
411.32	E271		
411.32	R200		
411.33	E271		
411.33	E272		
411.33	R200		
411.34	E272		
411.34	E273		
411.34	R200		
411.35	E273		
411.35	E274		

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
411.35	R200		
411.36	E274		
411.36	R200		
411.4	E215		
411.5	E212		
412	R200		
421	E211		
422	E211		
423.11	E221		
423.12	E221		
423.13	E211		
423.14	E216	423.14	
423.15	E216		
423.16	E216		
423.17	E216		
423.21	E222		
423.22	E216	423.22	
423.23	E216	423.23	
423.24	E216	423.24	
423.25	E214	423.25	
423.31	E223		
423.32	E216	423.32	
423.33	E216	423.33	
423.34	E216	423.34	
423.35	E216	423.35	
423.4		423.4	
423.41	E224		
423.42	E224		
423.43	E216		
423.44	E216		
423.45	E216		
423.46	E216	423.46	
423.51	E225		
423.52	E216	423.52	
423.53	E216	423.53	
423.54	E216		
423.55	E216		
423.61	E226		
423.62	E216	423.62	
423.63	E216	423.63	
423.64	E216	423.64	
423.65	E216	423.65	
424.11	E272		
424.12	E272		
424.13	E272		
424.14	E272		
424.15	E217	424.15	
424.16	E217		
424.17	E217	424.17	
424.18	E217	424.18	
424.2	E217	424.2	
424.31	E274		
424.32	E217	424.32	
424.33	E217	424.33	
424.34	E217		
424.35	E217	424.35	
424.4	E250		
424.5	E242		
424.6	E244		Exp. 3/20/93.
424.7	E232	424.7	
424.7	M204	424.7	
424.81			Deleted.
424.82	E231		
424.83	E231		
424.84	E213	424.84	
424.85	E238		
424.86	M042		
424.9	E250		
425	E213	425	
426.1	D230		
426.2	D230		

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
426.3	D230	426.3	
426.4	D230	426.4	
426.5	D230		
426.6	D240	426.6	
426.7	D250	426.7	
427	E214	427	
428.1	E211		
428.2	E211		
428.3	E211		
428.4	E215		
429.1	C200		
429.2	C200		
429.3	A200		
429.4	C200		
429.5	C200		
429.6	E211		
429.7	A060		
430	D210		
441.1	M201		
441.21	M201		
441.22	M020		
441.231	M020		
441.232	M013		
441.24	M020		
441.25	M201		
441.3	M020		
441.3	M031		
441.3	M201		
442			Reserved in #45.
443	M202		
444	M202		
444	M203		
445.1	M205		
445.2	M041	445.2	
445.2	M042	445.2	
445.3	M041	445.3	
445.3	M042	445.3	
445.4	M041	445.4	
445.4	M042	445.4	
446	M032		
447			Exp. 3/20/93; Del.
450	D210		
461	P200	461	
462	P200		
463.1		463.1	
463.2	P013		
463.3	P200	463.3	
463.4	P200		
463.5	P200		
464	P200	464	
465	P750	465	
470	F010		
511			Deleted.
512			Deleted.
513	M812		
513	M813		
513	M814		
513	M815		
513	M816		
514	E142		
514	E147		
514	E242		
514	E342		
515	E144		
515	E148		
515	E244		
515	E344		
516	E145		
516	E149		
516	E245		
516	E345		

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
517	C840		
521	C810		
522	C820		
531	A950		
532	A950		
533	A950		
534	A800		
535	A930		
541.1	E142		
541.1	E242		
541.1	E342		
541.2	E142		
541.2	E242		
541.2	E342		
542	C830		
543	C830		
544	C830		
545	C830		
546	C830		
551	C840		
552	C840		
553	C840		
561.1	M020		
561.2	M033		
562.1	E142		
562.1	E242		
562.1	E342		
562.13	M812		
562.14	M812		
562.2			Exp. 3/20/93; Del.
562.3	M812		
562.4	M812		
563.11	E142		
563.12	E242		
563.13	E342		
563.2	M813		
563.3	M020		
563.3	M813		
563.4	M813		
563.5	M813		
563.6	M813		
564.11	E144		
564.11	E244		
564.11	E344		
564.12	M814		
564.13	M814		
564.14	M814		
564.2			Exp. 3/20/93; Del.
564.3	M814		
564.4	M814		
565.1	M815		
565.2	E144		
565.22	E244		
565.23	E344		
565.3	M815		
565.4	M815		
565.5	M815		
565.6	M815		
566.1	M816		
566.21	E144		
566.22	E244		
566.23	E344		
566.3	M816		
566.4	M816		
566.5	M816		
566.6	M816		
566.7	M816		
567			Exp. 3/20/93; Del.
568	M817	568	
569.1	M818		
569.11	E147		

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
569.12	M818		
569.13	M818		
569.2	M819		
569.21	E148		
569.22	M819		
569.23	M819		
571.11	E145		
571.12	E245		
571.13	E345		
571.2	M827		
572.1	M020		
572.2	M031		
572.2	M033		
573	M823		
574	M822		
574	M823		
574	M825		
575	M825	575	
576	M048		
577.1	E149		
577.2	M827		
581.1	P100		
581.2	P100		
581.3	P100		
581.4	P100		
581.5	P760		
581.6	P760		
582	P200		
583.1	P300		
583.2	P300		
583.3	P300		
583.4	P760		
583.5	P760		
590			Deleted.
611.1	E320		
611.1	R300		
611.2	E312		
612.1	R300		
612.2	E311		
612.2	R300		
612.3	R300		
613	E320		
613	R300		
621	E311		
622	E320		
623	E312		
624.1	E331		
624.2	E332		
624.3	A930		
624.3	E333		
624.4			Reserved in #45.
624.5			Reserved in #45.
624.6			Reserved in #45.
624.7	E350	624.7	
624.8	E334	624.8	
624.8	M304	624.8	
625	E371		
626	E372	626	
627	E372	627	
628			Exp. 3/20/93; Del.
628.1	E342		
628.2	E345		
628.3			Exp. 3/20/93; Del.
629.1	E311		
629.21	C300		
629.22	C300		
629.23	C300		
629.24	C024		
629.3	A010		
629.3	E312		
629.4	A010		

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
629.5	A060		
629.6	M301		
629.7	C300		
630	D300		
641.1	M301		
641.1	M302		
641.2	M305		
641.3			Reserved in #45.
641.4	M014		
641.4	M303		
642	M013		
643	M306		
644.1	M020	644.1	
644.1	M041	644.1	
644.1	M042	644.1	
644.1	M043	644.1	
644.2	M031	644.2	
644.2	M041	644.2	
644.2	M043	644.2	
644.3	M031		
644.3	M041		
644.3	M043		
644.4	M031	644.4	
644.4	M041	644.4	
644.4	M043	644.4	
645	M307	645	
646.1	M032		
646.2	M032		
647.1	M308		
647.2	M309		
647.3			Deleted.
647.4	M032		
647.4	M033		
650	D300		
661	P300		
662	P300		
663	P013		
664	P750		
665	P750		
691	F010		In Exhibits.
692.1	F010		In Exhibits.
692.2	F010		In Exhibits.
692.3	F030		
711.11	E412		
711.11	R400		
711.12	E412		
711.12	R400		
711.13	E412		
711.13	R400		
711.14	E412		
711.14	R400		
711.15	E412		
711.15	R400		
711.21	E414		
711.22	E414		
711.22	R400		
711.23	E414		
711.23	R400		
711.24	P013		
711.24	R400		
711.31	E416		
711.32	E416		
711.33	R400		
711.41	E419		
711.42	E419		
711.42	R400		
711.5	P013		
711.6	E411		
712.1	E411		
712.1	R400		
712.2	E411		

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
712.2	R400		
712.3	E411		
712.3	R400		
712.4	E411		
712.4	R400		
721.1	E411		
721.2	E411		
721.3	M073		
722.1	E412		
722.2	E412		
722.3	E412		
722.4	E450		
722.5	D010		
723.1	E414		
723.2	E414		
723.3			Deleted.
724	E416		
724	M404		
725	E419		
730	D400		
741	E412		
742	E411		
743	E411		
751	C400		
752	C400		
753	C400		
753	E412		
761.1	A010		
761.2	E412		
762	M401		
763.1	E414		
763.1	M403		
763.2			Deleted.
764	M044		
764	M404		
765	M073		
766	M405		
767.11	M402		
767.11	M403		
767.12	M403		
767.13	M402		
767.13	M403		
767.2	M402		
767.2	M407		
767.3	M406		
767.4	M407	767.4	
767.5	M020	767.5	
767.5	M031	767.5	
767.5	M041	767.5	
767.5	M044	767.5	
767.6	M020	767.6	
767.6	M031	767.6	
767.6	M041	767.6	
767.6	M044	767.6	
767.7	A060		
767.8	M403		
768	M013		
768	M014		
769	M032		
770	D400		
781	P400		
782	P400		
783	P013		
784	P750	784	
785	P750	785	
791	F010		
792.1	F010		
792.2	F030		
911.1	S911		
911.2	S911	911.2	
911.3	S911	911.3	

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
911.4	S911	911.4	
911.5	S911	911.5	
912.1	S912		
912.2	S912		
912.3	R900		
912.4	S912	912.4	
912.5	S912	912.5	
912.6	F010	912.6	
912.7		912.7	
912.8	S912	912.8	
913.1	S913		
913.2	S913		
913.3	S913		
913.33	R900		
913.4	S913	913.4	
913.5		913.5	
913.5	S913		
913.6		913.6	
913.7		913.7	
913.8	F010	913.8	
914.1	S921	914.1	
914.2	R900		
914.3	S921		
914.4	S921	914.4	
914.5	S921	914.5	
914.6		914.6	
914.7		914.7	
914.8		914.8	
915.1	S930	915.1	
915.2	S923	915.2	
915.3	S930	915.3	
915.4	S930	915.4	
915.5		915.5	
915.6	F010	915.6	
916.1	S930		
916.2	S930		
916.3	S930		
916.4	S930		
916.5	S930		
916.6	F010		
917.1	S922	917.1	
917.2	S922		
917.3	R900	917.3	
917.3	S922	917.3	
917.4	S922		
917.5	S922		
917.6	S922		
918.1	S930		
918.2	S930		
918.3	S930		
918.4	R900		
918.5	S930	918.5	
919.1	S923	919.1	
919.2	S923	919.2	
919.3	S923	919.3	
919.4	S923	919.4	
919.5	S923	919.5	
919.6		919.6	
919.7		919.7	
930			Reserved in #45.
931	S914	931	
931.23	R900		
932	S915	932	
933	S916	933	
934	S917		
934.5		934.5	
934.6		934.6	
934.7	F010	934.7	
934.8		934.8	
941.1	S020	941.1	
941.2		941.2	

CROSS-REFERENCE TABLES—Continued

[Disposition of DMM 45 Material to DMM 46 and Transition Book]

DMM 45	DMM 46	TBK	Comments
941.3	S020	941.3	
941.4	S020	941.4	
941.5		941.5	
941.6		941.6	
941.7		941.7	
941.8	S020	941.8	
942	S020	942	
942	S930	942	
943	S030		
944	S030		
945.1	A910		
945.1	R100		
945.2	A910		
945.3	A910		
945.4	A910		
945.5	A910		
946	A920	946	
946.9	A930		
951	D910	951	
952	D920	952	
953	D930	953	
954	D930	954	

ORIGIN OF DMM 46 MATERIAL IN DMM 45

DMM 46	DMM 45
A010	122.11, 122.12, 122.13, 122.14, 122.15, 122.2, 122.61, 122.63, 122.8, 122.9, 136.22, 361, 629.3, 629.4, 761.1
A040	122.4
A060	429.7, 629.5, 767.7
A200	429.3
A800	534
A910	945.1, 945.2, 945.3, 945.4, 945.5
A920	946
A930	122.44, 535, 624.3, 946.9
A950	531, 532, 533
C010	121, 123.1, 123.2, 123.3, 127.1, 127.2, 127.4, 127.5
C021	124.2, 124.4, 321.3
C022	124.5
C023	124.6
C024	124.7, 129, 354, 629.24
C031	123.4
C032	123.5
C033	123.6
C041	124.1
C042	124.3
C050	127.3, 128
C100	322.2, 322.3, 351, 352, 353
C200	429.1, 429.2, 429.4, 429.5
C300	629.21, 629.22, 629.23, 629.7
C400	751, 752, 753
C500	250, 252
C810	521
C820	522
C830	542, 543, 544, 545, 546
C840	517, 551, 552, 553
D010	224.3, 225.3, 226, 326.5, 722.5
D020	154.1, 154.2, 154.3, 154.6, 154.7, 154.8
D030	152, 222.5
D041	151
D042	153, 155, 156, 157
D070	136.72, 136.73, 136.91, 136.92, 136.93, 136.97

ORIGIN OF DMM 46 MATERIAL IN DMM 45—Continued

DMM 46	DMM 45
D071	136.71
D072	144.8
D100	330, 370, 372, 373, 374
D210	430, 450
D230	426.1, 426.2, 426.3, 426.4, 426.5
D240	426.6
D250	426.7
D300	630, 650
D400	730, 770
D500	222.3, 222.4, 223, 224.4, 225.4, 226, 227, 230, 270, 272, 273
D910	951
D920	952
D930	953, 954
E010	125
E020	126
E030	134
E040	135
E050	137.1
E060	137.2
E070	136.1, 136.21, 136.23, 136.31, 136.32, 136.41, 136.42, 136.72, 136.81, 136.85, 136.92
E080	138
E110	311.11, 311.12, 311.21, 313.1, 313.21, 313.31, 313.6, 321.1, 321.2, 322.1, 322.4, 340
E120	314, 326.1, 326.3, 326.4
E131	361
E132	323, 361
E142	324, 514, 541.1, 541.2, 562.1, 563.11
E144	325, 515, 564.11, 565.2, 566.21
E145	516, 571.11
E147	327, 514, 569.11
E148	328.1, 515, 569.21
E149	328.2, 516, 577.1
E211	421, 422, 423.13, 428.1, 428.2, 428.3, 429.6
E212	411.12, 411.21, 411.23, 411.24, 411.25, 411.31, 411.5

ORIGIN OF DMM 46 MATERIAL IN DMM 45—Continued

DMM 46	DMM 45
E213	424.84, 425
E214	423.25, 427
E215	411.4, 428.4
E216	423.14, 423.15, 423.16, 423.17, 423.22, 423.23, 423.24, 423.32, 423.33, 423.34, 423.35, 423.43, 423.44, 423.45, 423.46, 423.52, 423.53, 423.54, 423.55, 423.62, 423.63, 423.64, 423.65
E217	424.15, 424.16, 424.17, 424.18, 424.2, 424.32, 424.33, 424.34, 424.35
E221	423.11, 423.12
E222	423.21
E223	423.31
E224	423.41, 423.42
E225	423.51
E226	423.61
E231	411.14, 424.82, 424.83
E232	424.7
E238	424.85
E242	424.5, 514, 541.1, 541.2, 562.1, 563.12
E244	424.6, 515, 564.11, 565.22, 566.22
E245	516, 571.12
E250	424.4, 424.9
E271	411.32, 411.33
E272	411.33, 411.34, 424.11, 424.12 424.13, 424.14
E273	411.34, 411.35
E274	411.35, 411.36, 424.31
E311	612.2, 621, 629.1
E312	611.2, 623, 629.3
E320	611.1, 613, 622
E331	624.1
E332	624.2
E333	624.3
E334	624.8

ORIGIN OF DMM 46 MATERIAL IN DMM 45—Continued

DMM 46	DMM 45
E342	514, 541.1, 541.2, 562.1, 563.13, 628.1
E344	515, 564.11, 565.23, 566.23
E345	516, 571.13, 628.2
E350	624.7
E371	625
E372	626, 627
E411	711.6, 712.1, 712.2, 712.3, 712.4, 721.1, 721.2, 742, 743
E412	711.11, 711.12, 711.13, 711.14, 711.15, 722.1, 722.2, 722.3, 741, 753, 761.2
E414	711.21, 711.22, 711.23, 723.1, 723.2, 763.1
E416	711.31, 711.32, 724
E419	711.41, 711.42, 725
E450	722.4
E500	210, 215.1, 215.2, 216, 221.1, 221.2, 221.4, 222.1, 223, 224.1, 224.2, 225.1, 225.2, 226, 240, 242
F010	136.5, 136.86, 159.1, 159.4, 159.5, 292.3, 295.1, 295.2, 295.3, 297, 391, 392.1, 392.2, 470, 691, 692.1, 692.2, 791, 792.1, 912.6, 913.8, 915.6, 916.6, 934.7
F020	159.2, 291.1, 291.2
F030	122.18, 159.3, 291.3, 292.1, 292.2, 294, 392.3, 692.3, 792.2
G011	111.2, 112, 113, 114
G012	115
G013	119, 166
G020	111.1, 111.3, 111.4, 111.5, 131, 132, 133
G030	122.7
G900	161, 162, 163, 164, 171, 172, 173, 176
I042	132
L001	Exhibit 122.63a
L002	Exhibit 122.63b
L003	Exhibit 122.63c
L004	Exhibit 122.63d
L101	Exhibit 122.63e
L201	Exhibit 122.63f
L202	Exhibit 122.63i
L203	Exhibit 122.63p
L701	Exhibit 122.63g
L702	Exhibit 122.63h
L703	Exhibit 122.63j
L704	Exhibit 122.63k
L705	Exhibit 122.63l
L706	Exhibit 122.63q
L707	Exhibit 122.63r
L708	Exhibit 122.63s
L801	Exhibit 122.63m
L802	Exhibit 122.63n
L803	Exhibit 122.63o
L804	Exhibit 122.63t
M011	122.17
M013	369.1, 441.232, 642, 768
M014	641.4, 768
M020	441.22, 441.231, 441.24, 441.3, 561.1, 563.3, 572.1, 644.1, 767.5, 767.6
M031	363, 441.3, 572.2, 644.2, 644.3, 644.4, 767.5, 767.6
M032	369.2, 369.3, 446, 646.1, 646.2, 647.4, 769
M033	363, 561.2, 572.2, 647.4

ORIGIN OF DMM 46 MATERIAL IN DMM 45—Continued

DMM 46	DMM 45
M041	445.2, 445.3, 445.4, 644.1, 644.2, 644.3, 644.4, 767.5, 767.6
M042	424.86, 445.2, 445.3, 445.4, 644.1
M043	644.1, 644.2, 644.3, 644.4
M044	764, 767.5, 767.6
M048	576
M071	136.24, 136.32, 136.84
M072	136.75, 136.76, 136.93, 136.95, 136.96
M073	721.3, 765
M074	154.4, 154.5
M101	326.2, 362.1, 363
M102	362.3, 367.3, 367.4
M103	362.2, 367.1, 367.2, 367.5
M201	441.1, 441.21, 441.25, 441.3
M202	443, 444
M203	444
M204	424.7
M205	445.1
M301	629.6, 641.1
M302	641.1
M303	641.4
M304	624.8
M305	641.2
M306	643
M307	645
M308	647.1, 647.2
M401	762
M402	767.11, 767.13, 767.2
M403	763.1, 767.11, 767.12, 767.13, 767.8
M404	724, 764
M405	766
M406	767.3
M407	767.2, 767.4
M500	222.2, 260
M812	362.5, 513, 562.13, 562.14, 562.3, 562.4
M813	362.5, 513, 563.2, 563.3, 563.4, 563.5, 563.6
M814	362.6, 513, 564.12, 564.13, 564.14, 564.3, 564.4
M815	362.6, 513, 565.1, 565.3, 565.4, 565.5, 565.6
M816	362.6, 513, 566.1, 566.3, 566.4, 566.5, 566.6, 566.7
M817	568
M818	362.4, 569.1, 569.12, 569.13
M819	362.7, 569.2, 569.22, 569.23
M823	362.6, 573, 574
M825	574, 575
M827	362.7, 571.2, 577.2
P011	146, 148
P012	(New)
P013	384, 411.11, 411.13, 463.2, 663, 711.24, 711.5, 783
P014	147, 296.1, 296.2, 296.3
P021	141
P022	142
P023	143
P030	144.1, 144.2, 144.3, 144.4, 144.5, 144.9
P040	145.1, 145.2, 145.3, 145.4, 145.5, 145.6
P071	136.31, 136.32, 136.43, 136.83, 136.84
P072	136.76, 136.93, 136.94, 136.96
P100	381, 382, 383, 581.1, 581.2, 581.3, 581.4

ORIGIN OF DMM 46 MATERIAL IN DMM 45—Continued

DMM 46	DMM 45
P200	461, 462, 463.3, 463.4, 463.5, 464, 582
P300	583.1, 583.2, 583.3, 661, 662
P400	781, 782
P500	281, 282
P710	145.7
P720	145.8
P730	145.9
P750	465, 664, 665, 784, 785
P760	581.5, 581.6, 583.4, 583.5
P790	145.9
R100	311.13, 311.22, 312, 313.22, 313.32, 313.5, 313.6, 313.7, 313.8, 314, 315, 945.1
R200	411.22, 411.23, 411.24, 411.25, 411.32, 411.33, 411.34, 411.35, 411.36, 412
R300	611.1, 612.1, 612.2, 612.3, 613
R400	711.11, 711.12, 711.13, 711.14, 711.15, 711.22, 711.23, 711.24, 711.32, 711.42, 712.1, 712.2, 712.3, 712.4
R500	210, 212, 215.1, 215.2
R900	912.3, 913.33, 914.2, 917.3, 918.4, 931.23
S010	149
S020	941.1, 941.3, 941.4, 941.8, 942
S030	943, 944
S070	136.6
S500	136.77, 295.1, 295.2, 295.3, 296.1, 296.2, 296.3, 297
S911	911.1, 911.2, 911.3, 911.4, 911.5
S912	912.1, 912.2, 912.4, 912.5, 912.8
S913	913.1, 913.2, 913.3, 913.4, 913.5
S914	931
S915	932
S916	933
S917	934
S921	914.1, 914.3, 914.4, 914.5
S922	917.1, 917.2, 917.3, 917.4, 917.5, 917.6
S923	915.2, 919.1, 919.2, 919.3, 919.4, 919.5
S930	915.1, 915.3, 915.4, 916.1, 916.2, 916.3, 916.4, 916.5, 918.1, 918.2, 918.3, 918.5, 942

Any regulation language contained in Issue 45 which is not carried forward in Issue 46 and the DMM Transition Book is rescinded. The listing of the parts and sections of the DMM in 39 CFR 111.5 is revised to conform with this revision of the DMM.

List of Subjects in 39 CFR Part 111

Postal Service.

PART 111—INFORMATION ON POSTAL SERVICE

1. The authority citation for 39 CFR part 111 continues to read as follows:

Authority: 5 U.S.C. 552(a); 39 U.S.C. 101, 401, 403, 404, 3001–3011, 3201–3219, 3403–3406, 3621, 5001.

2. Section 111.5 is revised to read as follows:

§ 111.5 Contents of the Domestic Mail Manual.

1050—Reference Material

Contents

I—Introduction and Index

1000 Getting Started
1010 How to Use the DMM
1020 Summary of Changes
1030 Publication List
1040 Places to Get Additional Information
1041 Postal Business Centers
1042 Rates and Classification Service Centers
1043 Address List for Correspondence
1050 Reference Material
1051 Table of Contents
1052 Subject Index
1053 Forms Index
1100 First-Class Reference Guide
1200 Second-Class Reference Guide
1300 Third-Class Reference Guide
1400 Fourth-Class Reference Guide

G—General Information

G000 The Postal Service and Mailing Standards
G010 Doing Business with the USPS
G011 Postal Service
G012 Mail Security
G013 Trademarks and Copyrights
G020 Mailing Standards
G030 Postal Zones
G900 Philatelic Services

R—Rates and Fees

R000 Stamps and Stationery
R100 First-Class Mail
R200 Second-Class Mail
R300 Third-Class Mail
R400 Fourth-Class Mail
R500 Express Mail
R900 Services

P—Postage and Payment Methods

P000 Basic Information
P010 General Standards
P011 Payment
P012 Documentation
P013 Rate Application and Computation
P014 Refunds and Exchanges
P020 Postage Stamps and Stationery
P021 Stationery Bearing Postage
P022 Adhesive Stamps
P023 Precanceled Stamps
P030 Postage Meters and Meter Stamps
P040 Permit Imprints
P070 Mixed Classes
P071 General Information
P072 Express Mail and Priority Mail Drop Shipment
P100 First-Class Mail
P200 Second-Class Mail
P300 Third-Class Mail
P400 Fourth-Class Mail
P500 Express Mail
P700 Special Postage Payment Systems
P710 Manifest Mailing System (MMS)
P720 Optional Procedure (OP) Mailing System
P730 Alternate Mailing Systems (AMS)
P750 Plant-Verified Drop Shipment (PVDS)
P760 Special Provisions for First- or Third-Class Mailings with Different Postage Payment Methods
P790 Mailgram Messages

E—Eligibility

E000 Special Eligibility Standards
E010 Overseas Military Mail
E020 Department of State Mail
E030 Mail Sent by U.S. Armed Forces
E040 Free Matter for the Blind and Other Handicapped Persons
E050 Official Mail (Franked)
E060 Official Mail (Penalty)
E070 Mixed Classes
E080 Absentee Balloting Materials
E100 First-Class Mail
E110 Basic Standards
E120 Priority Mail
E130 Presort Rates
E131 Presorted First-Class Rate
E132 Carrier Route Rate
E140 Automation Rates
E142 ZIP+4 Presort Rate
E144 Barcoded Rate (Letters and Cards)
E145 ZIP+4 Barcoded Rate (Flats)
E147 Nonpresorted ZIP+4 Rate
E148 Nonpresorted Barcoded Rate (Cards)
E149 Nonpresorted ZIP+4 Barcoded Rate (Flats)
E200 Second-Class Mail
E210 Basic Standards
E211 Standards Applicable to All Second-Class Mail
E212 Basic Rate Eligibility
E213 Publisher Records
E214 Reentry
E215 Copies Not Paid or Requested by Addressee
E216 Second-Class Mail Privileges
E217 Authorization for Special Rates
E220 Additional Standards for Qualification Categories
E221 General Publications
E222 Publications of Institutions and Societies
E223 State Departments of Agriculture
E224 Requester Publications
E225 Foreign Publications
E226 News Agent Registry
E230 Presort Rates
E231 Basic Standards
E232 Walk-Sequence Discounts
E236 Combining Multiple Publications or Editions
E240 Automation Discounts
E242 ZIP+4 Discounts
E244 Barcoded Discounts (Letter-Size Pieces)
E245 ZIP+4 Barcoded Rate (Flats)
E250 Destination Entry Discounts
E270 Preferred Rates
E271 In-County Rates
E272 Nonprofit Rates
E273 Classroom Rates
E274 Science-of-Agriculture Rates
E300 Third-Class Mail
E310 Basic Standards
E311 Standards Applicable to All Third-Class Mail
E312 Additional Standards Applicable to Bulk Third-Class Mail
E320 Single-Piece Rate
E330 Presort Discounts
E331 Basic Presort
E332 3/5 Presort
E333 Carrier Route Presort
E334 Walk-Sequence Presort
E340 Automation Discounts
E342 ZIP+4 Discounts
E344 Barcoded Discounts (Letter-Size Pieces)
E345 ZIP+4 Barcoded Discounts (Flats)
E350 Destination Entry Discounts
E370 Special (Nonprofit) Bulk Rates
E371 Basic Standards
E372 Authorization
E400 Fourth-Class Mail
E410 Basic Standards
E411 Standards Applicable to All Fourth-Class Mail
E412 Parcel Post
E414 Bound Printed Matter
E416 Special Fourth-Class Rates
E419 Library Rate
E450 Destination BMC/ASF Discount
E500 Express Mail

A—Addressing

A000 Basic Addressing
A010 General Information
A040 Alternative Addressing Formats
A060 Using Detached Address Cards
A200 Second-Class Mail
A800 Addressing for Automation
A900 Customer Support Services
A910 Mailing List Services
A920 Address Sequencing Services
A930 Other Services
A950 Coding Accuracy Support System (CASS)

C—Characteristics and Content

C000 General Information
C010 General Mailability Standards
C020 Restricted Matter
C021 Basic Information
C022 Firearms, Knives, and Sharp Instruments (18 USC 1715, 1716)
C023 Perishables
C024 Other Restricted Matter
C030 Nonmailable Written, Printed, and Graphic Matter
C031 Written, Printed, and Graphic Matter Generally
C032 Sexually Oriented Advertisements
C033 Pandering Advertisements
C040 Nonmailable Articles and Substances
C041 General
C042 Hazardous Matter
C050 Mail Processing Categories
C100 First-Class Mail
C200 Second-Class Mail
C300 Third-Class Mail
C400 Fourth-Class Mail
C500 Express Mail
C800 Automation-Compatible Mail
C810 Letters and Cards
C820 Flats
C830 Nonbarcoded Letters and Cards in Automation Rate Mailings
C840 Barcoded Mailpieces

M—Mail Preparation and Sortation

M000 General Preparation Standards
M010 Mailpiece Preparation
M011 Class and Rate Markings
M013 Optional Endorsement Lines
M014 Carrier Route Information Lines
M020 Packages and Bundles
M030 Container Preparation
M031 Labels
M032 Barcoded Container Labels
M033 Sacks and Trays
M040 Palletization
M041 Pallets
M042 Second-Class Mail

M043 Third-Class Mail
M044 Fourth-Class Mail
M048 Automation-Compatible Flats
M070 Mixed Classes
M071 Basic Information
M072 Express Mail and Priority Mail Drop Shipment
M073 Combined Mailings of Third- and Fourth-Class Machinable Parcels
M074 Plant Load Mailings
M100 First-Class Mail
M101 Priority Mail
M102 Carrier Route Presort
M103 Presorted First-Class
M200 Second-Class Mail
M201 Level A/G/J
M202 Level B/H
M203 Level C/I/K
M204 Walk-Sequence
M205 Bedloaded Bundles
M300 Third-Class Mail
M301 Single-Piece Rate
M302 Basic and 3/5 Presort
M303 Carrier Route
M304 Walk-Sequence
M305 Machinable Parcels
M306 Irregular Parcels
M307 Bedloaded Bundles
M308 Trays
M400 Fourth-Class Mail
M401 Parcel Post
M402 Bound Printed Matter
M403 Carrier Route Bound Printed Matter
M404 Special Fourth-Class
M405 Library Rate
M406 Machinable Parcels
M407 Bound Printed Matter as Bedloaded Bundles
M500 Express Mail
M800 Automation-Compatible Mail
M810 Letter-Size Mail
M812 ZIP+4 Presort—Tray-Based Mailings
M813 ZIP+4 Presort—Package-Based Mailings
M814 Barcoded—Tray-Based Mailings
M815 Barcoded—Two-Tier Package-Based Mailings
M816 Barcoded—Three-Tier Package-Based Mailings
M817 Elective Documentation
M818 First-Class Nonpresorted ZIP+4 Rate Mailings
M819 First-Class Nonpresorted Barcoded Rate Mailings
M820 Flat-Size Mail
M823 ZIP+4 Barcoded
M825 Elective Documentation
M827 First-Class Nonpresorted ZIP+4 Barcoded Rate Flats

L—Labeling Lists

L000 General Use
L001 Optional Multi-ZIP Coded Post Offices
L002 Unique 3–Digit ZIP Code Prefix Offices
L003 SCFs Serving a Single 3–Digit ZIP Code Area
L004 SCFs Serving More Than One 3–Digit ZIP Code Area
L100 First-Class Mail
L101 ADC Labeling List for Presorted First-Class Mailings and First-Class ZIP+4 Barcoded Flat-Size Mailings
L200 Second-Class Mail
L201 SDC Labeling List for Second-Class Publications
L202 State Labeling List for Second-Class Publications
L203 Originating Mixed States Labeling List for Second-Class Publications
L700 Third- and Fourth-Class Mail
L701 SDC Labeling List for Third- and Fourth-Class Letter- and Flat-Size Mail
L702 Optional SDC Labeling List for Third- and Fourth-Class Irregular Parcels
L703 State Labeling List for Third- and Fourth-Class Letter- and Flat-Size Mail
L704 State Labeling List for Third- and Fourth-Class Irregular Parcels
L705 BMC Labeling List for Bulk-Rate Third- and Fourth-Class Machinable Parcel Mailings
L706 Originating Mixed States Labeling List for Third-Class Letter- and Third- and Fourth-Class Flat-Size Mail
L707 Originating Mixed States Labeling List for Third- and Fourth-Class Irregular Parcels
L708 Distribution Labeling List and Service Areas for Third- and Fourth-Class DBMC Rates
L800 Automation Rate Mailings
L801 3–Digit Labeling List for Automated Site Mailings
L802 SCF Labeling List for Automated Site Mailings
L803 AADC Labeling List for Automated Site Mailings
L804 AADC Labeling List for Letter-Size First-, Second-, and Third-Class ZIP+4 and Barcoded Rate Mailings

D—Deposit, Collection, and Delivery

D000 Basic Information
D010 Pickup Service
D020 Plant Loads
D030 Recall of Mail
D040 Delivery of Mail
D041 Customer Mail Receptacles
D042 Conditions of Delivery
D070 Drop Shipments
D071 Express Mail and Priority Mail Drop Shipment
D072 Drop Shipment of Metered Mail
D100 First-Class Mail
D200 Second-Class Mail
D210 Basic Information
D230 Additional Entry
D240 Exceptional Dispatch
D250 Deposit of Second-Class at AMFs
D300 Third-Class Mail
D400 Fourth-Class Mail
D500 Express Mail
D900 Other Delivery Services
D910 Post Office Box Service
D920 Caller Service
D930 General Delivery, Firm Holdouts

F—Fowarding and Related Services

F000 Basic Services
F010 Basic Information
F020 Forwarding
F030 Address Correction, Address Change, and Return Services

S—Special Services

S000 Miscellaneous Services
S010 Indemnity Claims
S020 Money Orders
S030 Nonpostal Services
S070 Mixed Classes
S500 Special Services for Express Mail
S900 Special Postal Services
S910 Security and Accountability
S911 Registered Mail
S912 Certified Mail
S913 Insured Mail
S914 Certificate of Mailing
S915 Return Receipts
S916 Restricted Delivery
S917 Return Receipt for Merchandise
S920 Convenience
S921 Collect on Delivery (COD) Mail
S922 Business Reply Mail (BRM)
S923 Merchandise Return Service
S930 Handling

Stanley F. Mires,

Chief Counsel, Legislative Division.

[FR Doc. 93–15408 Filed 6–29–93; 8:45 am]

BILLING CODE 7710–12–U

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 51 and 52

[AD–FRL–4673–2]

Prevention of Significant Deterioration for Particulate Matter; Correction

AGENCY: Environmental Protection Agency (EPA).

ACTION: Correction to final rule.

SUMMARY: This document corrects the Preamble to the final rule published on June 3, 1993 at (58 FR 31622). The rule revised the maximum allowable increases (increments) for particulate matter under the requirements for prevention of significant deterioration (PSD) of air quality. The Preamble contains an incorrect date for filing a petition for judicial review, and this action provides the correct date.

EFFECTIVE DATE: This correction is effective June 30, 1993.

FOR FURTHER INFORMATION CONTACT: Questions regarding this correction notice can be directed to Dan deRoeck, Air Quality Management Division (MD–15), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, (919) 541–5593.

SUPPLEMENTARY INFORMATION: Section 307(b)(1) of the Clean Air Act, 42 U.S.C. 7607(b)(1), allows 60 days for individuals to file a petition for review concerning final rulemaking actions by the Administrator. The Preamble to the June 3, 1993 PSD rule revisions inadvertently contained an incorrect date which would have allowed persons only 30 days to file such petition. Today's action corrects that error by providing that a petition for judicial review may be filed at any time during the 60-day period specified by the statute.

The final rule published on June 3, 1993 is corrected as follows:
On page 31622, in the first column, in the fourth line under the DATES caption, the incorrect date for filing a petition, "July 6, 1993," is corrected to read "August 2, 1993."

Dated: June 17, 1993.

James B. Weigold,

Acting Director, Office of Air Quality Planning and Standards.

[FR Doc. 93-15456 Filed 6-29-93; 8:45 am]

BILLING CODE 6560-50-P

40 CFR Part 52

[CA13-7-5746; FRL-4670-2]

Approval and Promulgation of Implementation Plans; California State Implementation Plan Revisions for Kern County Air Pollution Control District, San Diego County Air Pollution Control District, and San Joaquin Valley Unified Air Pollution Control District

AGENCY: Environmental Protection Agency.

ACTION: Notice of final rulemaking (NFR).

SUMMARY: EPA is finalizing approval of revisions to the California State Implementation Plan (SIP) proposed in the **Federal Register** on April 14, 1992. The revisions concern rules from the following districts: The Kern County Air Pollution Control District (KCAPCD), the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD), and the San Diego County Air Pollution Control District (SDCAPCD). This approval action will incorporate these rules into the federally approved SIP. The intended effect of approving these rules is to regulate emissions of volatile organic compounds (VOCs) in accordance with the requirements of the Clean Air Act, as amended (CAA or the Act). These rules control VOC emissions from architectural coatings. The proposed action on these rules provided a 30-day public comment period and EPA received three letters commenting on its proposal to approve the revisions. The issues raised in these letters have been considered by EPA, and found not to warrant a change in EPA's decision to approve these rules. Thus, EPA is finalizing the approval of these revisions into the California SIP under section 110(k)(3) as meeting the requirements of section 110(a) and part D of the CAA.

EFFECTIVE DATE: This action is effective July 30, 1993.

ADDRESSES: Copies of the documents relevant to this action are available for public inspection during normal business hours at the following locations:

Rulemaking Section II (A-5-3), Air and Toxics Division, U.S. Environmental Protection Agency, Region IX, 75 Hawthorne Street, San Francisco, CA 94105.

Environmental Protection Agency, Jerry Kurtzweg, ANR-445, 401 "M" Street SW., Washington, DC 20460.

California Air Resources Board, Stationary Source Division, Rule Evaluation Section, 2020 "L" Street, Sacramento, CA 95814.

Kern County Air Pollution Control District, 2700 M Street, suite 275, Bakersfield, CA 93301.

San Diego County Air Pollution Control District, County Administration Center, 1600 Pacific Highway, room 335, San Diego, CA 92101.

San Joaquin Valley Unified, Air Pollution Control District, 2314 Mariposa Street, Fresno, CA 93721.

FOR FURTHER INFORMATION CONTACT: Dave Hodges, Rulemaking Section I (A-5-4), Air and Toxics Division, U.S. Environmental Protection Agency, Region IX, 75 Hawthorne Street, San Francisco, CA 94105, Telephone: (415) 744-1197.

SUPPLEMENTARY INFORMATION:

Background

On April 14, 1992 in 57 FR 12906, EPA proposed to approve the following rules into the California SIP: KCAPCD Rule 410.1, Architectural Coatings;[1] SDCAPCD Rule 67.0, Architectural Coatings; and SJVUAPCD Rule 460.1, Architectural Coatings. Rule 410.1 was adopted by the KCAPCD on May 6, 1991; Rule 460.1 was adopted by the SJVUAPCD on April 11, 1991; and Rule 67.0 was adopted by the SDCAPCD on December 4, 1990. SDCAPCD Rule 67.0 was submitted by the California Air Resources Board (ARB) on May 13, 1991, and the other two rules were submitted by ARB to EPA on May 30, 1991.

These rules, with the exception of KCAPCD Rule 410.1, were submitted in response to EPA's 1988 SIP-Call and the section 182(a)(2)(A) RACT fix-up requirement of the CAA.[2] Both EPA's 1988 SIP-Call and section 182(a)(2)(A) of the CAAA required nonattainment areas to fix their deficient reasonably available control technology (RACT) rules for ozone in accordance with EPA guidance that interpreted the requirements of the pre-amended Act. Section 182(a)(2)(A) also established a deadline of May 15, 1991 for states to submit corrections of those deficiencies. A detailed discussion of the background for each of the above rules and nonattainment areas is provided in the above-referenced notice of proposed rulemaking.

EPA has evaluated all of the above rules for consistency with the requirements of the CAA and EPA regulations and EPA interpretation of these requirements as expressed in the various EPA policy guidance documents referenced at (57 FR 12906). EPA has found that the rules meet the applicable EPA requirements. A detailed discussion of the rule provisions and evaluations has been provided at (57 FR 12906) and in the technical support documents available at EPA's Region IX office (TSDs dated February 27, 1992 for Rules 410.1, 67.0, and 460.1).

A 30-day public comment period was provided and three commenters submitted letters in response to EPA's proposal.

Comment: Two commenters, the Environmental Legislative & Regulatory Advocacy Program of the Southern California Paint & Coating Association (EL RAP), and Triangle Coatings, Inc. expressed concern that VOC content limits for certain architectural coatings may not be feasible by the effective date of September 1, 1992, and as a result have a deleterious effect on air quality. The commenters requested that EPA refrain from approving those portions of the rules which require lower VOC limits effective September 1, 1992.[3]

Response: The EPA supports California's use of certain technology-forcing limits because they have an important role in the state's efforts at controlling air pollution. The past use of

[1] The portion of Kern County affected by KCAPCD Rule 410.1 is that area of Kern County that lies outside of the San Joaquin Valley Air Basin and is contained within the Southeast Desert Air Basin.

[2] The requirements of the CAA section 182(a)(2)(A) RACT fix-up requirement were applicable only to those areas designated as non-attainment at the time of the CAA's enactment. The pre-enactment designation for that portion of Kern County which lies within the Southeast Desert Air Basin and is affected by Rule 410.1, was unclassified for ozone. Therefore, that portion of Kern County located within the Southeast Desert Air Basin was not subject to the section 182(a)(2)(A) requirements.

[3] EPA notes that Triangle Coatings, Inc. and others have challenged in state court the September 1, 1992 VOC content limits set forth in the KCAPCD and SJVUAPCD rules that are the subject of this final rulemaking. *Dunn-Edwards Corp., et al* v. *Technical Review Group*, No. BC065536 (Cal. Super. Ct. L.A.). However, to date, the court has made no rulings that affect the validity of these rules under state or local law. Therefore, there exists no legal impediment resulting from the lawsuit to EPA's final action approving the rules into the California SIP. See *Sierra Club* v. *Indiana-Electric Corporation*, 716 F.2d 1145 (1983).

certain technology-forcing coating limits in architectural coating regulations has led to the development and acceptance of low-VOC coatings. The California Air Resources Board (ARB) in the development of the Suggested Control Measure for Architectural Coatings, upon which the regulations in this notice were modeled, set limits based upon information supplied by paint manufacturers. The ARB determined, and EPA agrees that, a "reasonable basis" existed that the limits could be met by the proposed effective dates. In consideration of the technology-forcing effect of certain coating limits in these rules, the past history of the paint industry's compliance with technology-forcing limits,[4] and the subsequent benefit to air quality through reduced VOC emissions, EPA believes it is appropriate to approve the rules as proposed. Should any of the limits be found unattainable, or a convincing demonstration be made that the coating standards adversely affect air quality, the State may request and EPA will consider a change to the SIP to reflect the most stringent but attainable VOC coating standard.

Comment: One commenter, EL RAP, stated that the California Air Resources Board had failed to comply with section 110(l) of the CAA by failing to provide "reasonable notice and public hearing" of the proposed SIP revisions.

Response: EPA has found that the State of California complied with section 110(l) of the CAA and 40 CFR 51.102 in its submittal of the architectural coating rules addressed in this notice. The proposed KCAPCD, SJVUAPCD, and SDCAPCD architectural coating rules were adopted by the Districts on May 6, 1991, April 11, 1991, and May 13, 1991 respectively. Prior to adoption, the Districts conducted public hearings to afford the opportunity for public comment on these proposed regulations. The time and location of these public hearings were announced by the Districts thirty (30) days in advance of the hearings. The adopted District rules were submitted to the ARB which subsequently adopted these rules as revisions to the SIP through Executive Orders G–125–86 and G–125–87. Further information on hearing dates, locations, and public comment is located in the docket files for these rules. Docket files are available for public review at the EPA Region IX office whose address was provided earlier in this notice.

Comment: The U.S. Small Business Administration (SBA) commented that the proposed rules' compliance with the Regulatory Flexibility Act (RFA) was inadequate as EPA failed to transmit a RFA certification to the Chief Counsel for Advocacy.

Response: EPA acknowledges that the NPR did not fully explain the reason for certification. Therefore, a complete explanation has been incorporated into the Regulatory Process section of this notice. The SBA previously waived the requirement in the RFA that EPA transmit a copy of the Regulatory Flexibility certification to the SBA's Chief Counsel for Advocacy on SIP approvals.

EPA Action

In today's notice, EPA takes final action to approve the above rules for inclusion into the California SIP. EPA is approving the submittal under section 110(k)(3) as meeting the requirements of section 110(a) and part D of the CAA. This approval action will incorporate these rules into the federally approved SIP. The intended effect of approving these rules is to regulate emissions of VOCs in accordance with the requirements of the CAA.

Nothing in this action should be construed as permitting or allowing or establishing a precedent for any future request for revision to any State Implementation Plan. Each request for revision to the State Implementation Plan shall be considered separately in light of specific technical, economic, and environmental factors and in relation to relevant statutory and regulatory requirements.

Regulatory Process

This action has been classified as a Table 2 action by the Regional Administrator under the procedures published in the **Federal Register** on January 19, 1989 (54 FR 2214–2225). On January 6, 1989, the Office of Management and Budget (OMB) waived Table 2 and Table 3 SIP revisions from the requirements of Section 3 of Executive Order 12201 for a period of two years (54 FR at 2222). EPA has submitted a request for a permanent waiver for Table 2 and Table 3 SIP revisions. OMB has agreed to continue the temporary waiver until such time as it rules on EPA's request.

Under the Regulatory Flexibility Act, 5 U.S.C. 600 *et seq.*, EPA must prepare a regulatory flexibility analysis assessing the impact of any proposed or final rule on small entities. 5 U.S.C. 603 and 604. Alternatively, EPA may certify that the rule will not have a significant impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and government entities with jurisdiction over populations of less than 50,000.

SIP approvals under section 110 and subchapter I, part D of the CAA do not create any new requirements, but simply approve requirements that the State is already imposing. Therefore, because the federal SIP-approval does not impose any new requirements, it does not have a significant impact on any small entities affected. Moreover, due to the nature of the federal-state relationship under the CAA, preparation of a regulatory flexibility analysis would constitute federal inquiry into the economic reasonableness of State action. The CAA forbids EPA to base its actions concerning SIPs on such grounds. *Union Electric Co.* v. *U.S. E.P.A.*, 427 U.S. 246, 256–66 (S.Ct. 1976); 42 U.S.C. section 7410(a)(2).

Under section 307(b)(1) of the Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by August 30, 1993. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Air pollution control, Ozone, Hydrocarbons, Incorporation by reference, Intergovernmental relations, Reporting and recordkeeping requirements. Note: Incorporation by reference of the State Implementation Plan for the State of California was approved by the Director of the **Federal Register** on July 1, 1982.

[4] The California Technical Review Group (TRG), a statewide regulatory workgroup, has recently investigated (July 1992) the subject architectural coatings and their availability at the mandated September 1, 1992 VOC limits. The findings of the TRG were that the anticipated technological developments have occurred, with the possible exception of magnesite cement coatings for which formulation development was still ongoing, and that there are VOC compliant coatings available for each category in California. EPA does not believe that the September 1, 1992 standard for magnesite cement coatings (450 grams VOC/liter of coating) will result in any compliance problems in SJVUAPCD or KCAPCD since the major manufacturer of this coating has reported that magnesite cement coating is not distributed for use in these areas. In SDCAPCD where magnesite cement coating is sold, SDCAPCD Rule 67.0 does not require the September 1, 1992 standard of 450 grams VOC/liter of coating. SDCAPCD Rule 67.0 requires magnesite cement coating meet a 600 grams VOC/liter of coating standard.

Dated: June 10, 1993.

David P. Howekamp,

Acting Regional Administrator.

Part 52, chapter 1, title 40 of the Code of Federal Regulations is amended as follows:

PART 52—[AMENDED]

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

Subpart F—California

2. Section 52.220 is amended by adding paragraphs (c)(184)(i)(D)(*1*), (185)(i)(A)(*4*), and (185)(i)(C)(*3*).

§ 52.220 Identification of plan.

* * * * *

(c) * * *

(184) * * *

(i) * * *

(D) * * *

(*1*) Amended Rule 67.0, adopted on December 4, 1990.

* * * * *

(185) * * *

(i) * * *

(A) * * *

(*4*) Amended Rule 410.1, adopted on May 6, 1991.

* * * * *

(C) * * *

(3) New Rule 460.1, adopted on April 11, 1991.

* * * * *

[FR Doc. 93–15370 Filed 6–29–93; 8:45 am]

BILLING CODE [illegible]

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40 CFR Part 52

[CA–12–4–5890; FRL–4672–4]

Approval and Promulgation of Implementation Plans; California State Implementation Plan Revision; San Diego County Air Pollution Control District

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of final rulemaking.

SUMMARY: EPA is finalizing the approval of revisions to the California State Implementation Plan (SIP) proposed in the **Federal Register** on March 8, 1993 and January 5, 1993. The revisions concern the following rules from the San Diego County Air Pollution Control District (SDCAPCD): Rule 61.2, Transfer of Organic Compounds into Mobile Transport Tanks; Rule 61.3, Transfer of Volatile Organic Compounds into Stationary Storage Tanks; and Rule 67.5, Paper, Film, and Fabric Coating Operations. This approval action will incorporate these rules into the federally approved SIP. The intended effect of approving these rules is to regulate emissions of volatile organic compounds (VOCs) in accordance with the requirements of the Clean Air Act, as amended (CAA or the Act). The revised rules control VOC emissions from several different industries. Both **Federal Register** notices provided 30-day public comment periods, and EPA received no comments on its proposals to approve these revisions. Thus, EPA is finalizing the approval of these revisions into the California SIP under section 110(k)(3) as meeting the requirements of section 110(a) and part D of the CAA.

EFFECTIVE DATE: This action is effective August 2,1993.

ADDRESSEES: Copies of the documents relevant to this action are available for public inspection during normal business hours at the following locations:

Rulemaking Section II (A–5–3), Air and Toxics Division, U.S. Environmental Protection Agency, Region IX, 75 Hawthorne Street, San Francisco, CA 94105

Environmental Protection Agency, Jerry Kurtzweg ANR 443, 401 "M" Street, SW., Washington, DC 20460

California Air Resources Board, Stationary Source Division, Rule Evaluation Section, 2020 "L" Street, Sacramento, CA 95814

San Diego County Air Pollution Control District, 9150 Chesapeake Drive, San Diego, CA 92123–1095

FOR FURTHER INFORMATION CONTACT: Christine Vineyard, Rulemaking Section II (A–5–3), Air and Toxics Division, U.S. Environmental Protection Agency, Region IX, 75 Hawthorne Street, San Francisco, CA 94105 Telephone: (415) 744–1195.

SUPPLEMENTARY INFORMATION:

Background

On January 5, 1993 in 58 FR 324, EPA proposed to approve the following rule into the California SIP: SDCAPCD's Rule 67.5, Paper, Film, and Fabric Coating Operations. On March 8, 1993 in 58 FR 12914, EPA proposed to approve the following rules into the California SIP: SDCAPCD Rule 61.2, Transfer of Organic Compounds into Mobile Transport Tanks and Rule 61.3, Transfer of Volatile Organic Compounds into Stationary Storage Tanks. Rules 67.5, 61.2, and 61.3 were adopted by SDCAPCD on October 16, 1990. All three rules were submitted by the California Air Resources Board to EPA on April 5, 1991.

These rules were submitted in response to EPA's 1988 SIP-Call and the CAA requirement that nonattainment areas fix their deficient reasonably available control technology (RACT) rules for ozone in accordance with EPA guidance that interpreted the requirements of the pre-amendment Act. A detailed discussion of the background for each of the above rules and nonattainment areas is provided in the NPR(s) cited above.

EPA has evaluated all of the above rules for consistency with the requirements of the CAA and EPA regulations and EPA interpretation of these requirements as expressed in the various EPA policy guidance documents referenced in 58 FR 324 and 58 FR 12914. EPA has found that the rules meet the applicable EPA requirements. A detailed discussion of the rule provisions and evaluations has been provided in 58 FR 324 and 58 FR 12914 and in technical support documents (TSDs) available at EPA's Region IX office (TSDs dated August 24, 1992 (Rule 67.5), August 20, 1992 (Rule 61.2) and August 27, 1992 (Rule 61.3).

EPA Action

In today's notice, EPA takes final action to approve the above rules for inclusion into the California SIP. EPA is approving the submittal under section 110(k)(3) as meeting the requirements of section 110(a) and part D of the CAA. This approval action will incorporate these rules into the federally approved SIP. The intended effect of approving these rules is to regulate emissions of VOCs in accordance with the requirements of the CAA.

Nothing in this action should be construed as permitting or allowing or establishing a precedent for any future request for revision to any state implementation plan. Each request for revision to the state implementation plan shall be considered separately in light of specific technical, economic, and environmental factors and in relation to relevant statutory and regulatory requirements.

Regulatory Process

This action has been classified as a Table 2 action by the Regional Administrator under the procedures published in the **Federal Register** on January 19, 1989 (54 FR 2214–2225). EPA has submitted a request for a permanent waiver for Table 2 and Table 3 SIP revisions. OMB has agreed to continue the temporary waiver until such time as it rules on EPA's request.

Under section 307(b)(1) of the Act, petitions for judicial review of this action must be filed in the United States

Court of Appeals for the appropriate circuit by August 30, 1993. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Air pollution control, Carbon monoxide, Hydrocarbons, Incorporation by reference, Ozone, Volatile organic compounds.

Dated: June 17, 1993.

John C. Wise,

Acting Regional Administrator.

Part 52, chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 52—[AMENDED]

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

Subpart F—California

2. Section 52.220 is amended by adding paragraph (c)(183)(i)(A)(*10*) to read as follows:

§ 52.220 Identification of plan.

* * * * *

(c) * * *

(183) * * *

(i) * * *

(A) * * *

(*10*) Revised Rules 61.2, 61.3, and 67.5, adopted on October 16, 1990.

* * * * * *

[FR Doc. 93–15371 Filed 6–29–93; 8:45 am]

BILLING CODE 6560–50–F

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40 CFR Part 52

[IL 34–1–5355; FRL–4469–7]

Approval and Promulgation of Implementation Plans; Illinois

AGENCY: United States Environmental Protection Agency (USEPA).

ACTION: Final rule.

SUMMARY: On June 29, 1990, USEPA promulgated a Federal implementation plan (FIP) which contained stationary source volatile organic compound (VOC) control measures representing reasonably available control technology (RACT) for certain emission sources, including coating operations, located in six northeastern Illinois (Chicago area) counties: Cook, DuPage, Kane, Lake, McHenry, and Will. USEPA also took final rulemaking action on certain VOC RACT rules previously adopted and submitted by the State of Illinois for inclusion in its State implementation plan (SIP).

Among the rules that USEPA promulgated is one for coating operations. Under this rule, the VOC limit for pail and drum interior coatings which are not "clear coatings" is 3.5 lb/gal. On October 1, 1991, the KNS Companies, Inc. (KNS) petitioned USEPA to revise the VOC limit applicable to pail and drum interior coatings to 4.3 lb/gallon. In support of its request, KNS attached two USEPA policy memoranda. For the reasons discussed below, USEPA has determined that the FIP revision requested by KNS Companies is consistent with USEPA policy and should be approved.

DATES: This action will be effective August 30, 1993 unless notice is received within 30 days of publication that someone wishes to submit adverse or critical comments. Such notice may be submitted to Jay Bortzer at the EPA Regional Office address listed below. If the effective date is delayed, timely notice will be published in the **Federal Register.**

Comments on this requested revision to the Chicago FIP and on USEPA's rulemaking action must be received by July 30, 1993 at the address below. A public hearing, if requested, will be held in Chicago, Illinois. Requests for a hearing should be submitted to Jay Bortzer by July 30, 1993 at the address below. Interested persons may call Ms. Hattie Geisler at (312) 886–3199 to see if a hearing will be held and the date and location of any hearing. Any hearing will be strictly limited to the subject matter of this action, the scope of which is discussed below.

ADDRESSES: Written comments on this action should be addressed to Jay Bortzer, Chief, Regulation Development Section (AR–18J), U.S. Environmental Protection Agency, Region V, 77 West Jackson Street, Chicago, Illinois 60604. Comments should be strictly limited to the subject matter of this action, the scope of which is discussed below.

DOCKET: Pursuant to section 307(d)(1), of the CAA, 42 U.S.C. 7607(d)(1), this action is subject to the procedural requirements of section 307(d). Therefore, EPA has established a public docket for this action, 5–AR–92–3, which is available for public inspection and copying between 8 a.m. and 4 p.m., Monday through Friday, at the following addresses. We recommend that you contact Steven Rosenthal before visiting the Chicago location and Gloris Butler before visiting the Washington, DC location. A reasonable fee may be charged for copying.

U.S. Environmental Protection Agency, Region V, Regulation Development Branch, 18th Floor, Southwest, 77 West Jackson Street, Chicago, Illinois 60604.

U.S. Environmental Protection Agency, Docket No. 5–AR–92–3, Air Docket (LE–131), room M1500, Waterside Mall, 401 M Street, SW., Washington, DC 20460, (202) 245–3639.

FOR FURTHER INFORMATION CONTACT: Steven Rosenthal, Regulation Development Branch, EPA Region V, (312) 886–6052, at the Chicago address indicated above.

SUPPLEMENTARY INFORMATION:

I. Background

On June 29, 1990, USEPA promulgated coating rules codified at 40 CFR 52.741(e) (55 FR 26856). Under the Federal coating rules, steel pail and drum interior coatings meeting the definition in 40 CFR 52.741(a)(3) for clear coatings ("coatings that lack opacity or are transparent using the undercoat as a reflectant base or undertone color"), are subject to the 4.3 lb/gallon VOC content limit in 40 CFR 52.741(e)(1)(i)(J)(*1*). Steel pail and drum interior coatings not meeting the above definition are subject to the 3.5 lb/gallon VOC content limit in 40 CFR 52.741(e)(1)(i)(J)(*3*), for "extreme performance coatings."

II. KNS's Petition for Reconsideration

On October 1, 1991, KNS Companies submitted a petition requesting that USEPA revise the Chicago FIP. The petition requested that a 4.3 lb/gallon VOC content limit be adopted for all steel pail and drum interior coatings. Two USEPA memoranda and a copy of 25 Pennsylvania Code § 129.5 were enclosed with the petition.

The subject of both memoranda was "emission limits for (interior) coatings of shipping pails and drums." Both memoranda, dated September 3, 1980, and April 5, 1985, respectively, state that USEPA's presumptive norm (for establishing RACT) for the VOC content of pail and drum interior coatings is 4.3 lb/gallon. Section 129.51 of that portion of Title 25 of the Pennsylvania Code attached to the petition adopts a 4.3 lb/gallon VOC content limit for pail and drum interior coatings. KNS has demonstrated that USEPA made an error in promulgating the FIP limit of 3.5 lb/gallon VOC content for some pail and

interior coatings. Based on USEPA's authority to correct an error under section 110(k)(6) of the Act, 42 U.S.C. 7410(k)(6), USEPA is revising the FIP to make it consistent with existing federal RACT guidance that specifies a 4.3 lb/gallon VOC content limit for pail and drum interior coatings.

III. Summary and Final Rulemaking Action

USEPA acknowledges that its policy since 1980 has been to recognize a 4.3 lb/gallon VOC limit for steel pail and drum interior coatings. It also acknowledges that under the Chicago FIP, steel pail and drum interior coatings not within the scope of the § 52.741(a)(3) "clear coating" definition are subject to the 3.5 lb/gallon VOC content limit under 40 CFR 52.741(e)(1)(i)(J)(3). USEPA agrees with the petitioner that the FIP should be revised to adopt a 4.3 lb/gallon VOC content limit for steel pail and drum interiors. Such a revision is consistent with RACT, as discussed in USEPA policy memoranda. USEPA is, therefore, promulgating a limit of 4.3 lb/gallon for steel pail and drum interiors and is adding definitions for "drum" and "pail".

USEPA has considered KNS's contentions concerning VOC limits for steel pail and drum interior coatings and believes that the FIP revision it requests is noncontroversial and should elicit no negative public comment. As such, the petition qualifies for direct and final rulemaking action. Accordingly, USEPA is publishing in today's **Federal Register**, a discussion of the principal issues and a final rule that applies a 4.3 lb/gallon VOC content limit to steel pail and drum interior coatings. USEPA is publishing this action without prior proposal because the Agency views this as a noncontroversial FIP revision and anticipates no adverse comments. This action will become final August 30, 1993 unless, within 30 days of its publication, notice is received that adverse or critical comments will be submitted.

If such notice is received, this action will be withdrawn before the effective date by publishing two subsequent notices. One notice will withdraw the final action and another will begin a new rulemaking by announcing a proposal of the action and establishing a comment period. If no such comments are received, the public is advised that this action will be effective August 30, 1993.

Under 5 U.S.C. 605(b), I certify that this FIP revision will not have a significant economic impact on a substantial number of small entities (see 46 FR 8709).

This rulemaking has been submitted to the Office of Management and Budget for review.

Under section 307(b)(1) of the CAA, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by August 30, 1993. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purpose of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements (see section 307(b)(2)).

List of Subjects in 40 CFR Part 52

Air pollution control, Carbon monoxide, Hydrocarbons, Ozone, Volatile organic compounds.

Authority: 42 U.S.C. 7401–7671q.

Dated: June 16, 1993.

Carol M. Browner,

Administrator.

For the reasons set out in the preamble 40 CFR part 52 is amended as follows:

PART 52—[AMENDED]

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

Subpart O—Illinois

2. Section 52.741 is amended by adding two definitions to paragraph (a)(3), by revising paragraph (e)(1)(i)(J)(4) and by adding paragraph (e)(1)(i)(J)(5) to read as follows:

§ 52.741 Control strategy: Ozone control measures for Cook, DuPage, Kane, Lake, McHenry, and Will Counties.

(a) * * *

(3) * * *

Drum means any cylindrical metal shipping container of 13- to 110-gallon capacity.

* * * * *

Pail means any cylindrical metal shipping container of 1- to 12-gallon capacity and constructed of 29-gauge and heavier material.

* * * * *

(e) * * *

(1) * * *

(i) * * *

(J) * * *

(4) Steel pail and drum interior coating, 0.52 (4.3).

(5) All other coatings, 0.36 (3.0).

* * * * *

[FR Doc. 93–15367 Filed 6–29–93; 8:45 am]

BILLING CODE 6560-50-M

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40 CFR Part 52

[MA–09–3–5788; A–1–FRL–4671–4]

Approval and Promulgation of Air Quality Implementation Plans; Massachusetts

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is approving portions of the State Implementation Plan (SIP) revision submitted by the Commonwealth of Massachusetts which amend its volatile organic compound (VOC) regulations. The intended effect of this action is to approve portions of the Massachusetts revised SIP for ozone submitted on June 7, 1991, November 13, 1992 and February 17, 1993. This action is being taken in accordance with section 110 and part D of the Clean Air Act (CAA).

EFFECTIVE DATE: This rule will become effective on July 30, 1993.

ADDRESSES: Copies of the documents relevant to this action are available for public inspection during normal business hours, by appointment at the Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, Region I, One Congress Street, 10th floor, Boston, MA; Jerry Kurtzweg, U.S. Environmental Protection Agency, 401 M Street, SW. (ANR–443), Washington, DC 20460; and Division of Air Quality Control, Department of Environmental Protection, One Winter Street, 7th Floor, Boston, MA 02108.

FOR FURTHER INFORMATION CONTACT: Emanuel Souza, Jr., (617) 565–3248.

SUPPLEMENTARY INFORMATION: On September 22, 1992 (57 FR 43651), EPA published a Notice of Proposed Rulemaking (NPR) for the Commonwealth of Massachusetts. Additionally, a notice was published on October 28, 1992 (57 FR 47896) correcting two typographical errors in the September 22, 1992 notice. The NPR proposed approval of portions of a SIP revision submitted by the Commonwealth of Massachusetts on June 7, 1991. Today's action finally approves portions of the SIP revisions submitted on June 7, 1991, November 13, 1992 and February 17, 1993.

Background

On May 25, 1988, EPA sent a letter to the Governor of Massachusetts notifying

him that the Massachusetts SIP was substantially inadequate to achieve the National Ambient Air Quality Standard (NAAQS) for ozone in the entire State. EPA requested the State to respond to that letter in two phases—the first in the near future and the second following EPA's issuance of a final policy on how the States should correct their SIPs. One of the requirements of the first phase of the State's response was to correct the deficiencies identified by EPA in the existing SIP's VOC regulations.

On June 16, 1988, EPA sent a letter to the Acting Director of the Massachusetts Department of Environmental Protection (DEP) Division of Air Quality Control outlining the corrections that needed to be made to Massachusetts' existing regulations in order to eliminate the identified deficiencies and inconsistencies in the regulations as compared to EPA's national guidance.

The Commonwealth of Massachusetts made changes to its VOC regulations as required by EPA's May 25 and June 16, 1988 letters, and submitted the revised adopted VOC regulations as a formal SIP revision on August 17, 1989.

EPA proposed approval of the August 17, 1989 submittal in two notices. The automobile surface coating regulation was published separately as a proposed partial disapproval and proposed partial approval. This notice was published in the **Federal Register** on October 12, 1990 (55 FR 41553). EPA acted on the automobile surface coating regulation separately because a portion of the submittal, the compliance dates for the topcoat and final repair applications, had already been disapproved by EPA on September 16, 1988 (53 FR 36011).

The remainder of the regulations submitted on August 17, 1989 were published as a proposed approval. EPA proposed approval of these remaining VOC regulations in an NPR on May 29, 1990 (55 FR 21755).

That notice proposed approval of all of Massachusetts' August 17, 1989 submittal with the exception of the automobile surface coating regulation.

On November 15, 1990, the Clean Air Act Amendments of 1990 (CAAA) were enacted. In section 182(a)(2)(A) of the amended Act, Congress codified the requirement that states revise their SIPs for ozone nonattainment areas so that they conform with EPA's pre-amendment guidance.

On June 7, 1991, Massachusetts submitted revisions to its VOC regulations pursuant to the changes requested in the NPRs published in the **Federal Register**. The June 7, 1991 SIP revision also included revisions to VOC regulations (organic material storage and distribution, solvent metal degreasing and surface coating of miscellaneous parts and products) which were never before proposed by EPA. Therefore, EPA chose to propose these regulations in a separate action. EPA finally approved as a separate action, revisions to Massachusetts' automobile surface coating regulation in the **Federal Register** on October 8, 1992 (57 FR 46313). Additionally, the regulations submitted on August 17, 1989 and June 7, 1991, with the exception of the organic material storage and distribution, solvent metal degreasing and surface coating of miscellaneous parts and products, were finally approved on January 11, 1993 (58 FR 3492). The organic material storage and distribution, solvent metal degreasing and surface coating of miscellaneous parts and products regulations were proposed for approval in the **Federal Register** on September 22, 1992 (57 FR 43651).

On November 13, 1992, the Commonwealth of Massachusetts submitted revisions to its VOC regulations pursuant to section 182(b)(2).[1] Included in this revision was an amendment to 310 CMR 7.24(4), which EPA requested the State to make before final approval of the regulations proposed on September 22, 1992.

EPA is taking final action on portions of the June 7, 1991, November 13, 1992 and February 17, 1993 because this action is consistent with the guidance that existed at the time of the proposal and because it strengthens the SIP. Additionally, these amendments, although submitted in response to the SIP call letter, also fulfill the RACT fix-up requirement.

Summary of Amendments Made To Secure Final EPA Approval

EPA's NPR published on September 22, 1992, for Massachusetts' organic material storage and distribution, solvent metal degreasing and miscellaneous metal parts and products regulations required that one issue be addressed prior to final rulemaking. In the November 13, 1992 submittal, Massachusetts added a revision to 310 CMR 7.24(4), "Motor Vehicle Fuel Tank Trucks," to require that testing to determine compliance shall be conducted in accordance with EPA Method 27 as described in appendix A of 40 CFR part 60, or by any other methods approved by the Department and EPA. Therefore, Massachusetts has satisfactory met the conditions of the NPR.

A more detailed description of these revisions and EPA's rationale for approving them was provided in the NPR and will not be restated here. For additional details of each portion of Massachusetts' regulations, see the Technical Support Document prepared on the revision available at the locations listed in the **ADDRESSES** section of this notice.

Response to Public Comments

EPA received one letter of public comment on the NPR published on May 29, 1990 and none on the September 22, 1992 NPR. The comment letter received on the May 29, 1990 NPR addressed issues that were subsequently being proposed in another action. Therefore, the final rulemaking notice (58 FR 3492) approving the regulations proposed on May 29, 1990 stated that the one comment letter received would be addressed when EPA published a final rulemaking notice on the September 22, 1992 NPR. The letter of public comment was submitted by the Massachusetts DEP on June 28, 1990. A summary of the significant comments and of EPA's response can be found below.

Comment: The DEP states that the seventh condition of the May 29, 1990 NPR, which states that the cutoff of 310 CMR 7.18(11)(a) for surface coating of miscellaneous metal parts (MMP) must be lowered to 15 pounds of VOC per day actual emissions before add-on control *or* Massachusetts must adopt an alternative approach that is shown to produce enforceable equivalent reductions in VOC emissions, causes the most concern. DEP believes that lowering the cutoff of the MMP is not the most efficient way to control small MMP coaters. The DEP believes that an innovative strategy of controlling the manufacturers and distributors of the coatings would be more appropriate and efficient in reducing these VOC emissions.

Response: This comment is no longer an issue since the state has adopted a cutoff of potential emissions of 10 tons per year for surface coaters of miscellaneous metal parts and products. To reduce the universe of possible facilities applicable to the regulation under the new cutoff, the DEP has made several exemptions. First, the sum of all coatings exempted from the emission limitations of 310 CMR 7.18(11)(b) shall

[1] Section 182(b)(2) requires all areas classified as moderate and above to submit a SIP revision to EPA requiring implementation of reasonably available control technology (RACT) for: (1) Each category of VOC sources in the area covered by a CTG document issued by the Administrator between the date of the enactment of the Clean Air Act Amendments of 1990 and the date of attainment, (2) all VOC sources in the area covered by any CTG issued before the date of the enactment of the Clean Air Act Amendments of 1990 and (3) all other major stationary sources of VOCs that are located in the area.

not exceed 55 gallons per year at any facility. Additionally, any facility which emits, before any application of air pollution control equipment, less than or equal to one ton of VOCs in any one calendar month, and less than ten tons of VOCs in any consecutive twelve month period is exempt from the emission limitations of 310 CMR 7.18(11)(b).

Final Action: EPA is approving portions of the SIP revisions submitted by the Commonwealth of Massachusetts on June 7, 1991, November 13, 1992 and February 17, 1993. These revisions amend Massachusetts' VOC regulations. For the reasons described here and in the Technical Support Document, EPA is approving the additions and/or revisions made to the Massachusetts VOC regulations.

Under the Regulatory Flexibility Act, 5 U.S.C. 600 et. seq., EPA must prepare a regulatory flexibility analysis assessing the impact of any proposed or final rule on small entities. 5 U.S.C. 603 and 604. Alternatively, EPA may certify that the rule will not have a significant impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and government entities with jurisdiction over populations of less than 50,000.

SIP approvals under section 110 and subchapter I, part D of the CAA do not create any new requirements, but simply approve requirements that the State is already imposing. Therefore, because the federal SIP-approval does not impose any new requirements, I certify that it does not have a significant impact on any small entities affected. Moreover, due to the nature of the federal-state relationship under the CAA, preparation of a regulatory flexibility analysis would constitute federal inquiry into the economic reasonableness of state action. The CAA forbids EPA to base its actions concerning SIPs on such grounds. *Union Electric Co.* v. *U.S. E.P.A.*, 427 U.S. 246, 256–66 (S.Ct. 1976); 42 U.S.C. 7410 (a)(2).

EPA is approving the submittals as meeting the requirements of section 182(a)(2)(A) of the amended Act. Areas designated nonattainment before enactment of the Amendments and which retained that designation and were classified as marginal or above as of enactment are required to meet the RACT fix-up requirement. Under section 182(a)(2)(A), those areas were required by May 15, 1991, to correct RACT as it was required under preamended section 172(b) as that requirement was interpreted in preamendment guidance.[2] The SIP call letters interpreted that guidance and indicated corrections necessary for specific nonattainment areas. The entire state of Massachusetts is classified as a serious, ozone nonattainment area and is, therefore, subject to the RACT fix-up requirement.

Section 182(a)(2)(A) codifies the corrections certain nonattainment areas needed to make subject to the EPA SIP call letters issued in 1987 and 1988. Because the Massachusetts SIP submittal meets the SIP call requirements and, therefore, is consistent with the applicable pre-amendment guidance, EPA believes that the submittal also necessarily meets the requirements of section 182 (a)(2)(A) of the amended Act.

This action has been classified as a Table 2 action by the Regional Administrator under the procedures published in the Federal Register on January 19, 1989 (54 FR 2214–2225).

On January 6, 1989, the Office of Management and Budget (OMB) waived Table 2 and Table 3 revisions (54 FR 2222) from the requirements of Section 3 of Executive Order 12291 for a period of two years. EPA has submitted a request for a permanent waiver for Table 2 and Table 3 SIP Revisions. OMB has agreed to continue the temporary waiver until such time as it rules on EPA's request.

Nothing in this action should be construed as permitting or allowing or establishing a precedent for any future request for revision to any State implementation plan. Each request for revision to the State implementation plan shall be considered separately in light of specific technical, economic, and environmental factors and in relation to relevant statutory and regulatory requirements.

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by August 30, 1993. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

[2] Among other things, the pre-amendment guidance consists of the VOC RACT portions of the Post-87 policy, 52 FR 45044 (Nov. 24, 1987); "Issues Relating to VOC Regulation Cutpoints, Deficiencies and Deviations, Clarification to Appendix D of November 24, 1987 Federal Register Notice" (Bluebook) (notice of availability published in the Federal Register on May 25, 1988); and the existing CTGs.

List of Subjects in 40 CFR Part 52

Air pollution control, Hydrocarbons, Incorporation by reference, Intergovernmental relations, Ozone, Reporting and recordkeeping requirements.

Note: Incorporation by reference of the State Implementation Plan for the Commonwealth of Massachusetts was approved by the Director of the Federal Register on July 1, 1982.

Dated: June 9, 1993.

Patricia Meaney,

Acting Regional Administrator, Region I.

Part 52 of chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 52—[AMENDED]

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

Subpart W—Massachusetts

2. Section 52.1120 is amended by adding paragraph (c)(58) to read as follows:

§ 52.1120 Identification of plan.

* * * * *

(c) * * *

(58) Revisions to the State Implementation Plan submitted by the Massachusetts Department of Environmental Protection on June 7, 1991, November 13, 1992 and February 17, 1993.

(i) Incorporation by reference.

(A) Letters from the Massachusetts Department of Environmental Protection dated June 7, 1991, November 13, 1992 and February 17, 1993 submitting revisions to the Massachusetts State Implementation Plan.

(B) Amendments and additions to 310 CMR 7.00 submitted on June 7, 1991 and effective on April 12, 1991.

(C) Amendments and additions to 310 CMR 7.00 submitted on June 7, 1991 and effective on June 21, 1991.

(D) Addition of 310 CMR 7.24(4)(j) submitted on November 13, 1992 and February 17, 1993 and effective on February 12, 1993.

(ii) Additional materials.

(A) Nonregulatory portions of the state submittal.

3. In § 52.1167 Table 52.1167 is amended by adding new entries to existing state citations for "310 CMR 7.00", "310 CMR 7.18(8)" and "310 CMR 7.18(11)"; and by adding new state citations for "310 CMR 7.20" and "310 CMR 7.24" to read as follows:

§52.1167 EPA-approved Massachusetts state regulations.

* * * * *

TABLE 52.1167.—EPA-APPROVED RULES AND REGULATIONS

State citation	Title/subject	Date submitted by State	Date approved by EPA	Federal Register citation	52.1120(c)	Comments/unapproved sections
•	•	•	•	•	•	•
310 CMR 7.00	Definitions	June 7, 1991 ...	[Insert date of publication].	[Insert FR citation from published date].	58	Definitions: Bulk plants, vapor balance systems.
•	•	•	•	•	•	•
310 CMR 7.18(8)	U Solvent Metal Degreasing.	June 7, 1991 ...	[Insert date of publication].	[Insert FR citation from published date].	58	Approval of 310 CMR 7.18 (8), (8)(a), (8)(a)1., (8)(a)2., (8)(a)3., (8)(a)4., (8)(a)5., (8)(a)6., (8)(b), (8)(b)1., (8)(b)2., (8)(b)3., (8)(b)4., (8)(b)5., (8)(b)6., (8)(b)7., (8)(b)8., (8)(b)9., (8)(b)10., (8)(b)11., (8)(b)12., (8)(b)13., (8)(c), (8)(c)1., (8)(c)2., (8)(c)3., (8)(c)4., (8)(c)5., (8)(c)6., (8)(c)7., (8)(c)8., (8)(c)9., (8)(d)2., (8)(d)3.
•	•	•	•	•	•	•
310 CMR 7.18(11) ..	U Surface Coating of Miscellaneous Metal Parts and Products.	June 7, 1991 ...	[Insert date of publication].	[Insert FR citation from published date].	58	Approval of 310 CMR 7.18 (11), (11)(a), (11)(a)1., (11)(a)2., (11)(a)3.
•	•	•	•	•	•	•
310 CMR 7.20	U Motor Vehicle Inspection and Maintenance Emission Analyzer Approval Process and Inspection Requirements and Procedures.	June 7, 1991 ...	[Insert date of publication].	[Insert FR citation from published date].	58	Approval of 310 CMR 7.20(10)(c)2. to correct a typographical error.
•	•	•	•	•	•	•
310 CMR 7.24	U Organic Material Storage and Distribution.	June 7, 1991, November 13, 1992, February 17, 1993.	[Insert date of publication].	[Insert FR citation from published date].	58	Replacement of 310 CMR 7.24, 7.24(1), 7.24(2), 7.24(3), and 7.24(4).
•	•	•	•	•	•	•

[FR Doc. 93–15373 Filed 6–29–93; 8:45 am]
BILLING CODE 6560–50–P

40 CFR Part 52

[PA7–1–5668; A–1–FRL–4670–1]

Approval and Promulgation of Air Quality Implementation Plans; Pennsylvania; Revisions to Municipal Waste Incinerator and Continuous Emissions Monitoring Requirements

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: EPA is approving a State Implementation Plan (SIP) revision submitted by the Commonwealth of Pennsylvania. This revision establishes new requirements pertaining to control of municipal waste incinerators and revised requirements governing continuous emissions monitoring (CEM). The intended effect of this action is to approve the federally-enforceable SIP so as to make it consistent with the current State requirements. This action

is being taken in accordance with section 110 of the Clean Air Act.

EFFECTIVE DATES: This action will become effective August 30, 1993 unless notice is received on or before July 30, 1993 that adverse or critical comments will be submitted. If the effective date is delayed, timely notice will be published in the **Federal Register**.

ADDRESSES: Comments may be mailed to Thomas J. Maslany, Director, Air, Toxics, and Radiation Management Division, U.S. Environmental Protection Agency, Region III, 841 Chestnut Building, Philadelphia, PA 19107. Copies of the documents relevant to this action are available for public inspection during normal business hours at the Air, Toxics, and Radiation Management Division, U.S. Environmental Protection Agency, Region III, 841 Chestnut Building, Philadelphia, PA 19107; Public Information Reference Unit, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460; and Commonwealth of Pennsylvania Department of Environmental Resources Bureau of Air Quality Control, P.O. Box 8468, 400 Market Street, Harrisburg, PA 17105–8468.

FOR FURTHER INFORMATION CONTACT: Harold A. Frankford (3AT10), (215) 597–1325.

SUPPLEMENTARY INFORMATION: On January 11, 1991, the Commonwealth of Pennsylvania submitted a formal revision to its State Implementation Plan (SIP). The SIP revision consists of revisions to the following sections of Title 25 of the Pennsylvania Code: Sections 121.1 (Definitions), 123.25 (Monitoring Requirements) 129.18 (Municipal Waste Incinerators), 139.101 (Monitoring-General Requirements), 139.103(2) (Opacity Monitoring Requirements), 139.104 (Sulfur Dioxide and Nitrogen Oxide Monitoring Requirements for Combustion Sources), and 139.111 (Municipal Waste Incinerators).

Pennsylvania provided proof that public hearings were held on September 21, 1989 in Coraopolis, September 25, 1989 in King of Prussia, and September 27, 1989 in Harrisburg, in accordance with the requirements of 40 CFR 51.102.

Summary of SIP Revision

A. Municipal Waste Incinerators

Section 121.1—Definitions

Definitions of combustion efficiency, incineration, incinerator, municipal waste, municipal waste incinerator, and resource recovery unit are added.

Section 129.18—Municipal Waste Incinerators

An entire section is added, establishing continuous emissions monitoring (CEM) requirements for municipal waste incinerators (MWIs.)

Section 139.111—Municipal Waste Incinerator Monitoring Requirements

The introductory sentence to Paragraph 139.111(1) is revised to add combustion efficiency as a monitoring parameter, replacing the requirements to monitor carbon dioxide and oxygen. Paragraphs 139.111(1), 139.111(2) and 139.111(3) are revised to add data availability requirements for MWIs. This is accomplished by referring to the quality assurance section of the CEM manual described in section 139.102(3) (References).

B. Miscellaneous Revisions to the CEM Requirements

1. In several sections, Pennsylvania has replaced the word systems with devices in order to clarify that the data monitoring requirements apply to the entire monitoring system, and not just the devices. Pennsylvania asserts that the operators of CEMs have always implemented the regulations as if the requirements applied to the entire system, and therefore, the change serves as a clarification. The affected sections are: Sections 123.25, 139.101, 139.103(2), 139.104, and 139.111.

2. Section 123.25(e) is added to allow use of data from alternative monitoring systems to determine compliance with the applicable sulfur dioxide (SO_2) emission limits. Section 123.25(d)(1) and (e) allow the Pennsylvania Department of Environmental Resources (DER) to utilize sulfur-in-fuel sampling programs to determine source compliance, provided that such sampling programs meet all the requirements of section 139. This regulation applies to solid fuel-fired combustion units requesting for an exemption to the one-hour averaging provision, as well as any fossil fuel-fired steam generator located statewide with a heat input greater than 250 mmbtu/hr which has installed SO_2 control equipment.

3. Section 139.101 is revised as described below:

a. The introductory paragraph is revised in order to clarify that the CEM provisions apply to the monitoring of emission and process operational parameters required by or approved under the New Source Performance Standards (NSPS) requirements of 40 CFR part 60.

b. Section 139.101(7) is revised to expand the procedures involved in CEM certification. The revision replaces "source sampling" with the more broad term testing in order to make clear that procedures other than source sampling are involved in the CEM certification process.

c. Section 139.101(16) is revised by replacing references to specific types of monitoring parameters with a generic reference to monitoring of emissions and process operation parameters. The purpose of this change is to ensure that the requirements of section 139.101 apply to all monitoring devices, and therefore, that the monitoring data is complete.

EPA Evaluation

The revised regulations involve no new emissions limitations. Rather, the revised regulations clarify the meaning of municipal waste incinerator, and clarify how compliance is to be determined. The regulations also expand the use of CEM as a compliance tool, and expand the CEM requirements to cover more types of monitoring systems. The revisions to the CEM requirements meet the basic requirements of 40 CFR part 51, appendix P.

The revised regulations do not provide any new exceptions beyond those already approved as part of the Pennsylvania SIP. Section 129.18, pertaining to requirements for municipal waste incinerators, does not specifically require CEM's to be installed on MWI's. However, the regulation authorizes DER to require continuous monitoring, and it is DER's practice to issue operating permits requiring all currently operating MWIs to install CEMs meeting the requirements of section 139. In addition, pursuant to section 129 of the Clean Air Act Amendments, EPA will be requiring Pennsylvania to submit a section 111(d) plan to control municipal waste combustor (MWC) emissions. One mandatory plan element is the requirement to install CEMS on MWI units with a throughput capacity of greater than 250 tons per day.

Therefore, EPA concludes that the revised regulations submitted by Pennsylvania on January 11, 1991 and described in this action conform with all statutory requirements of the Clean Air Act, as well as the substantive and procedural requirements of 40 CFR part 51. The control strategy demonstration submitted by Pennsylvania justifies that the revised regulations will have no adverse impact on the NAAQS for CO, SO_2, or NO_2, and thus, satisfies the requirements of 40 CFR part 51, subpart G (Control Strategy). The revised provisions also are consistent with

Agency practices and procedures, and therefore, are considered to be federally enforceable. A more detailed evaluation is provided in a Technical Support Document available upon request from the Regional EPA office listed in the **ADDRESSES** section of this action.

EPA is approving this SIP revision without prior proposal because the Agency views this as a noncontroversial amendment and anticipates no adverse comments. This action will be effective 60 days from the date of this **Federal Register** notice unless, within 30 days of its publication, notice is received that adverse or critical comments will be submitted. If such notice is received, this action will be withdrawn before the effective date by simultaneously publishing two subsequent notices. One notice will withdraw the final action and another will begin a new rulemaking by announcing a proposal of the action and establishing a comment period. If no such comments are received, the public is advised that this action will be effective on August 30, 1993.

Final Action: EPA is approving revised Pennsylvania Regulations 121.1, 123.25, 129.18, 139.101, 139.103, 139.104, and 139.111 as revisions of the Pennsylvania State Implementation Plan.

Nothing in this action should be construed as permitting or allowing or establishing a precedent for any future request for revision to any state implementation plan. Each request for revision to the state implementation plan shall be considered separately in light of specific technical, economic, and environmental factors and in relation to relevant statutory and regulatory requirements.

Under the Regulatory Flexibility Act, 5 U.S.C. 600 *et seq.*, EPA must prepare a regulatory flexibility analysis assessing the impact of any proposed or final rule on small entities. 5 U.S.C. 603 and 604. Alternatively, EPA may certify that the rule will not have a significant impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and government entities with jurisdiction over populations of less than 50,000.

SIP approvals under section 110 and subchapter I, Part D of the Clean Air Act do not create any new requirements but simply approve requirements that the State is already imposing. Therefore, because the Federal SIP approval does not impose any new requirements, the Administrator certifies that it does not have a significant impact on any small entities affected. Moreover, due to the nature of the Federal-State relationship under the CAA, preparation of a flexibility analysis would constitute Federal inquiry into the economic reasonableness of state action. The Clean Air Act forbids EPA to base its actions concerning SIPs on such grounds. *Union Electric Co.* v. *U.S. EPA*, 427 U.S. 246, 255–66 (1976); 42 U.S.C. 7410(a)(2).

This action has been classified as a Table 3 action by the Regional Administrator under the procedures published in the **Federal Register** on January 19, 1989 (54 FR 2214–2225). On January 6, 1989, the Office of Management and Budget waived Table 2 and 3 SIP revisions (54 FR 2222) from the requirements of section 3 of Executive Order 12291 for a period of two years. EPA has submitted a request for a permanent waiver for Table 2 and 3 SIP revisions. OMB has agreed to continue the temporary waiver until such time as it rules on EPA's request.

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this Agency approval action must be filed in the United States Court of Appeals for the appropriate circuit by August 30, 1993. Filing a petition for reconsideration by the Administrator of this final rule regarding Pennsylvania's revised municipal waste incinerator and CEM requirements does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See section 307(b)(2).)

List of Subjects in 40 CFR Part 52

Air pollution control, Carbon monoxide, Hydrocarbons, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Particulate matter, Reporting and recordkeeping requirements, Sulfur oxides.

Dated: June 11, 1993.

Stanley L. Laskowski,

Acting Regional Administrator, Region III.

Part 52 of chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 52—[AMENDED]

1. The authority citation for part 52 continues to read as follows:

Authority: 42 U.S.C. 7401–7671q.

Subpart NN—Pennsylvania

§ 52.2020 [Amended]

2. Section 52.2020 is amended by adding paragraph (c)(81) to read as follows:

§ 52.2020 Identification of plan.

* * * * *

(c) * * *

(81) Revisions to the State Implementation Plan submitted by the Pennsylvania Department of Environmental Resources on January 11, 1991.

(i) Incorporation by reference.

(A) Letter from the Pennsylvania Department of Environmental Resources dated January 11, 1991 submitting a revision to the Pennsylvania State Implementation Plan.

(B) The following revised regulations, effective October 27, 1990: Sections 121.1 (Definitions of "combustion efficiency," "incinerator," "municipal waste," "municipal waste incinerator," and "resource recovery unit" only); 123.25 (b), (c), and (e); 129.18 (entire section); 139.101 (7), (16) and introductory paragraph; 139.103(2); 139.104(2); 139.111 (1), (2), (3).

(ii) Additional material.

(A) Remainder of the January 11, 1991 State submittal.

* * * * *

[FR Doc. 93–15372 Filed 6–29–93; 8:45 am]

BILLING CODE 6560–50–P

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40 CFR Part 180

[PP 2E4108/R1198; FRL–4585–5]

RIN 2070–AB78

Pesticide Tolerance for N,N-Diethyl-2-(1-Naphthalenyloxy)Propionamide

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This document establishes a tolerance for residues of the herbicide *N,N*-diethyl-2-(1-naphthalenyloxy) propionamide (also referred to as napropamide) in or on the raw agricultural commodity sweet potato. The regulation to establish a maximum permissible level for residues of the herbicide in or on the commodity was requested in a petition submitted by the Interregional Research Project No. 4 (IR–4).

EFFECTIVE DATE: This regulation becomes effective on June 30, 1993.

ADDRESSES: Written objections, identified by the document control number, [PP 2E4108/R1198], may be submitted to: Hearing Clerk (A-110),

Environmental Protection Agency, Rm. M3708, 401 M St., SW., Washington, DC 20460.

FOR FURTHER INFORMATION CONTACT: By mail: Hoyt L. Jamerson, Emergency Response and Minor Use Section (H7505W), Registration Division, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: 6th Floor, CS #1, 2800 Jefferson Davis Hwy., Arlington, VA 22202, (703)-308-8783.

SUPPLEMENTARY INFORMATION: In the **Federal Register** of April 14, 1993 (58 FR 19391), EPA issued a proposed rule that gave notice that the Interregional Research Project No. 4 (IR-4), New Jersey Agricultural Experiment Station, P.O. Box 231, Rutgers University, New Brunswick, NJ 08903, had submitted pesticide petition (PP) 2E4108 to EPA on behalf of the Agricultural Experiment Stations of California, North Carolina, and Louisiana. The petition requested that the Administrator, pursuant to section 408(e) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 346a(e)), propose to establish a tolerance for residues of the herbicide *N,N*-diethyl-2-(1-naphthalenyloxy)propionamide in or on the raw agricultural commodity sweet potato at 0.1 part per million (ppm).

There were no comments or requests for referral to an advisory committee received in response to the proposed rule.

The data submitted in the petition and other relevant material have been evaluated and discussed in the proposed rule. Based on the data and information considered, the Agency concludes that the tolerance will protect the public health. Therefore, the tolerance is established as set forth below.

Any person adversely affected by this regulation may, within 30 days after publication of this document in the **Federal Register**, file written objections with the Hearing Clerk, at the address given above (40 CFR 178.20). The objections submitted must specify the provisions of the regulation deemed objectionable and the grounds for the objections (40 CFR 178.25). Each objection must be accompanied by the fee prescribed by 40 CFR 180.33(i). If a hearing is requested, the objections must include a statement of the factual issue(s) on which a hearing is requested, the requestor's contentions on such issues, and a summary of any evidence relied upon by the objector (40 CFR 178.27). A request for a hearing will be granted if the Administrator determines that the material submitted shows the following: There is a genuine and substantial issue of fact; there is a reasonable possibility that available evidence identified by the requestor would, if established, resolve one or more of such issues in favor of the requestor, taking into account uncontested claims or facts to the contrary; and resolution of the factual issue(s) in the manner sought by the requestor would be adequate to justify the action requested (40 CFR 178.32).

The Office of Management and Budget has exempted this rule from the requirements of section 3 of Executive Order 12291.

Pursuant to the requirements of the Regulatory Flexibility Act (Pub. L. 96-354, 94 Stat. 1164, 5 U.S.C. 601-612), the Administrator has determined that regulations establishing new tolerances or raising tolerance levels or establishing exemptions from tolerance requirements do not have a significant economic impact on a substantial number of small entities. A certification statement to this effect was published in the **Federal Register** of May 4, 1981 (46 FR 24950).

List of Subjects in 40 CFR Part 180

Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: June 18, 1993.

Douglas D. Campt,

Director, Office of Pesticide Programs.

Therefore, 40 CFR part 180 is amended as follows:

PART 180—[AMENDED]

1. The authority citation for part 180 continues to read as follows:

Authority: 21 U.S.C. 346a and 371.

2. In § 180.328, paragraph (a) table is amended by adding and alphabetically inserting the raw agricultural commodity sweet potato, to read as follows:

§ 180.328 N,N-Diethyl-1-(1-naphthalenyloxy)propionamide; tolerances for residues.

(a) * * *

Commodity	Parts per million
* * * * *	
Sweet potato	0.1
* * * * *	

* * * * *

[FR Doc. 93-15418 Filed 6-29-93; 8:45 am]

BILLING CODE 6560-50-F

40 CFR Part 180

[OPP-300279A; FRL-4580-9]

RIN 2070-AB78

Titanium Dioxide; Tolerance Exemption

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This document establishes an exemption from the requirement of a tolerance for residues of titanium dioxide (CAS Reg. No. 13463-67-7) when used as an inert ingredient (colorant on seed) in pesticide formulations applied to seeds for planting. This regulation was requested by Becker-Underwood, Inc. The proposed rule for this exemption also included a proposal for an exemption for 2-[methyl- [(perfluoroalkyl)-sulfonyl]- amino]alkyl (C_2-C_8) acrylate-alkyl (C_2-C_8) methacrylates-*N*-methylolacrylamide copolymer when used as an inert ingredient (water repellant agent) in pesticide formulations applied to animals. A comment was received in response to this proposal that questioned the risks to human health and the environment for this polymer, and the comment and proposal will be addressed in a separate **Federal Register** document.

EFFECTIVE DATE: This regulation becomes effective on June 30, 1993.

ADDRESSES: Written objections, identified by the document control number, [OPP-300279A], may be submitted to: Hearing Clerk (A-110), Environmental Protection Agency, Rm. M3708, 401 M St., SW., Washington, DC 20460.

FOR FURTHER INFORMATION CONTACT: By mail: Rosalind Gross, Registration Support Branch, Registration Division (H7505W), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: 6th Floor, North Tower, 2800 Crystal Drive, Arlington, VA 22202, (703)-308-8354.

SUPPLEMENTARY INFORMATION: In the **Federal Register** of March 10, 1993 (58 FR 13239), EPA issued a proposed rule giving notice that SmithKline Beecham Animal Health, 1600 Paoli Pike, P.O. Box 2650, West Chester, PA 19380-6014. had submitted pesticide petition 2E4147 to EPA requesting that the Administrator, pursuant to section 408(e) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 346a(e), propose to amend 40 CFR 180.1001(e) by establishing an exemption from the

requirement of a tolerance for residues of 2-[methyl- [(perfluoroalkyl)-sulfonyl]- amino]alkyl (C_2-C_8) acrylate-alkyl (C_2-C_8) methacrylates-*N*-methylolacrylamide copolymer when used as an inert ingredient (water repellant agent) in pesticide formulations applied to animals.

Also in the **Federal Register** of March 10, 1993 (58 FR 13239), EPA issued a proposed rule giving notice that Becker-Underwood, Inc., 801 Dayton Ave., Ames, IA 50010, had submitted pesticide petition (PP) 2E4128 to EPA requesting that the Administrator, pursuant to section 408(e) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 346a(e), propose to amend 40 CFR 180.1001(d) to expand an existing exemption from the requirement of a tolerance for residues of titanium dioxide (CAS Reg. No. 13463-67-7) when used as an inert ingredient (pigment/coloring agent in plastic bags used to wrap growing bananas (preharvest) to include the additional use as a colorant on seeds for planting.

Inert ingredients are all ingredients that are not active ingredients as defined in 40 CFR 153.125, and include, but are not limited to, the following types of ingredients (except when they have a pesticidal efficacy of their own): solvents such as alcohols and hydrocarbons; surfactants such as polyoxyethylene polymers and fatty acids; carriers such as clay and diatomaceous earth; thickeners such as carrageenan and modified cellulose; wetting, spreading, and dispersing agents; propellants in aerosol dispensers; microencapsulating agents; and emulsifiers. The term "inert" is not intended to imply nontoxicity; the ingredient may or may not be chemically active.

As part of the EPA policy statement on inert ingredients published in the **Federal Register** of April 22, 1987 (52 FR 13305), the Agency established data requirements which will be used to evaluate the risks posed by the presence of an inert ingredient in a pesticide formulation. Exemptions from some or all of the requirements may be granted if it can be determined that the inert ingredient will present minimal or no risk.

One comment was received in response to the proposed rule concerning 2-[methyl- [(perfluoroalkyl)-sulfonyl]- amino]alkyl (C_2-C_8) acrylate-alkyl (C_2-C_8) methacrylates-*N*-methylolacrylamide copolymer. The comment questioned the risks to human health and the environment for this polymer based on its characteristics. The comment indicated that Patent Number 4921696 includes some structures related to the subject copolymer, which exemplify why one should not generalize that substances with molecular weights greater than 1,000 are normally not absorbed through the intact gastrointestinal (GI) tract. EPA acknowledges that to protect the public health the comment necessitates further evaluation of the safety of 2-[methyl- [(perfluoroalkyl)- sulfonyl]- amino]alkyl (C_2-C_8) acrylate-alkyl (C_2-C_8) methacrylates-*N*-methylolacrylamide copolymer. EPA's findings in regard to the aforementioned comment will be discussed in a separate **Federal Register** document.

However, no comments or requests for referral to an advisory committee were received in response to the proposed rule for titanium oxide. The data submitted in the petition and other relevant material have been evaluated and discussed in the proposed rule. Based on the data and information considered, the EPA concludes that the tolerance exemption for titanium dioxide will protect the public health. Therefore, the tolerance exemption for residues of titanium dioxide is established as set forth below.

Any person adversely affected by this regulation may, within 30 days after publication of this document in the **Federal Register**, file written objections with the Hearing Clerk, at the address given above (40 CFR 178.20). The objections submitted must specify the provisions of the regulation deemed objectionable and the grounds for the objections (40 CFR 178.25). Each objection must be accompanied by the fee prescribed by 40 CFR 180.33(i). If a hearing is requested, the objections must include a statement of the factual issue(s) on which a hearing is requested, the requestor's contentions on such issues, and a summary of any evidence relied upon by the objector (40 CFR 178.27). A request for a hearing will be granted if the Administrator determines that the material submitted shows the following: There is a genuine and substantial issue of fact; there is a reasonable possibility that available evidence identified by the requestor would, if established, resolve one or more of such issues in favor of the requestor, taking into account uncontested claims or facts to the contrary; and resolution of the factual issue(s) in the manner sought by the requestor would be adequate to justify the action requested (40 CFR 178.32).

The Office of Management and Budget has exempted this rule from the requirements of section 3 of Executive Order 12291.

Pursuant to the requirements of the Regulatory Flexibility Act (Pub. L. 96-354, 94 Stat. 1164, 5 U.S.C. 601-612), the Administrator has determined that regulations establishing new tolerances or raising tolerance levels or establishing exemptions from tolerance requirements do not have a significant economic impact on a substantial number of small entities. A certification statement to this effect was published in the **Federal Register** of May 4, 1981 (46 FR 24950).

List of Subjects in 40 CFR Part 180

Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: June 18, 1993.

Douglas D. Campt,

Director, Office of Pesticide Programs.

Therefore, 40 CFR part 180 is amended as follows:

PART 180—[AMENDED]

1. The authority citation for part 180 continues to read as follows:

Authority: 21 U.S.C. 346a and 371.

2. In § 180.1001, paragraph (d) table is amended by revising the entry for titanium dioxide, to read as follows:

§ 180.1001 Exemptions from the requirement of a tolerance.

* * * * *

(d) * * *

Inert ingredients	Limits	Uses
* * * * * * *		
Titanium dioxide (CAS Reg. No. 13463-67-7)	.....	Pigment/coloring agent in plastic bags used to wrap growing bananas (preharvest), colorant on seeds for planting.
* * * * * * *		

* * * * *

[FR Doc. 93–15420 Filed 6–29–93; 8:45 am]
BILLING CODE 4910–59–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Care Financing Administration

42 CFR Part 414

[BPD–730–F]

RIN 0938–AF42

Medicare Program; Payment for Customized Wheelchairs

AGENCY: Health Care Financing Administration (HCFA), HHS.

ACTION: Final rule.

SUMMARY: This final rule responds to comments we received on an interim final rule relating to payment for customized wheelchairs that was published on December 20, 1991 (56 FR 65995). The interim rule set forth the Secretary's criteria that a wheelchair must meet to be considered a customized item and allowed for a payment for the purchase of customized items based on the carrier's case-by-case determination.

This rule establishes the interim rule as a final regulation with one change. The change is based on our review and consideration of the public comments.

EFFECTIVE DATE: This final rule is effective on July 30, 1993.

FOR FURTHER INFORMATION CONTACT: William Long, (410) 966–5655.

SUPPLEMENTARY INFORMATION:

I. Background

Before January 1, 1989, payment for durable medical equipment (DME) was made on the basis of reasonable charges. The reasonable charge was defined as the lowest of: (1) The actual charge for the item; (2) the customary charge; (3) the prevailing charge for the item in the locality; or (4) the inflation-indexed charge. Medicare carriers were also authorized by regulations, at § 405.502(a)(7), to take into account any other factors that may have been relevant in determining the reasonable charge. Further, the charges a carrier deemed reasonable for Medicare payment purposes were not to exceed the comparable charges that were applicable to policyholders and subscribers under that carrier's own private insurance plan. In the case of expensive equipment, carriers were also required to determine whether it would be more economical to rent or purchase the equipment. In the case of customized equipment, payment was based not on customary and prevailing charges but on reasonable charge determinations made by carriers on an item-by-item basis.

Section 4062(b) of the Omnibus Budget Reconciliation Act of 1987, Public Law 100–203, added section 1834 to the Social Security Act (the Act). Section 1834(a)(1)(B) limits Medicare payment for DME to the lower of the actual charge for the item or the fee schedule amount. Under sections 1834(a) (2) through (7), equipment is classified into one of six classes for payment purposes: Inexpensive or other routinely purchased DME; items requiring frequent and substantial servicing; customized items; prosthetics and orthotics; other expensive items of DME (capped rental); and oxygen and oxygen equipment. Payment for a piece of equipment is determined by the fee schedule for the class into which the piece of equipment falls. The methodology for computing fee schedules and for classifying equipment as belonging to a particular class is also provided for in sections 1834(a) (2) through (10) of the Act.

Under section 1834(a)(4), a lump sum payment for customized equipment continues to be based "upon the carrier's individual consideration" of the item. Before revision by section 4152(c)(4)(B) of the Omnibus Budget Reconciliation Act of 1990 (OBRA '90), Public Law 101–508, enacted on November 5, 1990, section 1834(a)(4) of the Act defined customized equipment as equipment

> * * * that is uniquely constructed or substantially modified to meet the specific needs of an individual patient, and for that reason cannot be grouped with similar items for purposes of payment * * *.

Section 4152(c)(4)(B) of OBRA '90 amended section 1834(a)(4) of the Act to provide that a wheelchair furnished on or after January 1, 1992 is treated as a customized item only if it meets the definition added at the end of section 1834(a)(4), that is—

> * * * if the wheelchair has been measured, fitted, or adapted in consideration of the patient's body size, disability, period of need, or intended use, and has been assembled by a supplier or ordered from a manufacturer who makes available customized features, modifications, or components for wheelchairs that are intended for an individual patient's use in accordance with instructions from the patient's physician.

However, under section 4152(c)(4)(B)(ii) of OBRA '90, if the Secretary developed specific criteria for the treatment of wheelchairs as customized items before January 1, 1992, the Secretary's criteria apply instead. On December 20, 1991, we published interim final regulations, effective on January 1, 1992, that set forth the Secretary's criteria (56 FR 65995).

II. Provisions of the Interim Final Rule

The December 20, 1991 interim final rule announced our decision not to use the optional definition of customized wheelchairs in section 1834(a)(4) of the Act and added a new § 414.224 to 42 CFR to provide in regulations criteria that must be met for a covered item to be considered a customized item for payment purposes. In addition, § 414.224 allows for a payment for the purchase of customized items based on the carrier's case-by-case determination.

In § 414.224(a), we specified that, to be considered a customized item for payment purposes, a covered item (including a wheelchair) must be uniquely constructed or substantially modified for a specific beneficiary and be so different from another item used for the same purpose that the two items cannot be grouped together for pricing purposes.

In § 414.224(b), we specified that payment is made on a lump sum basis for the purchase of a customized item based on the carrier's individual consideration and judgment of a reasonable payment amount for each customized item. We further specified that the carrier's individual consideration takes into account written documentation on the costs of the items including at least the cost of labor and materials used in customizing an item.

III. Responses to Public Comments

We received ten timely items of correspondence on the interim final rule. The commenters included medical equipment suppliers' associations, an association representing retail pharmacies, a State agency, a

congressman, the medical director of a Medicare carrier, and other individuals.

We received some comments on issues that did not pertain to the subject matter of the interim final rule, which was limited specifically to the definition of customized equipment and payment on the basis of the carrier's individual consideration and judgment of a reasonable payment amount. For example, we received comments regarding refining the coverage definitions of medical equipment, updating the HCFA Common Procedure Coding System (HCPCS), and allowing certain diagnoses to serve as authorization for customized equipment. We are responding in this final rule to only those comments related to the subject matter of the interim final rule.

Comment: A commenter suggested that we modify the definition of customized equipment by recognizing "nonstandard" modular components now offered by manufacturers as cost-effective methods of customizing.

Response: If a "nonstandard" item cannot be grouped with any other items for pricing purposes, it meets the definition of customized equipment; if it can be grouped with other items, it does not meet that definition. We see no reason to consider as customized items all items that are labeled "nonstandard." For example, if we received claims for 500 "nonstandard" items that were similar and similarly priced, it would be administratively burdensome and costly to consider each item as customized for pricing purposes and would serve no valid program purpose.

Comment: Two commenters stated that the definition of customized equipment is the same that was used before 1989 and it is outmoded. They suggested we adopt the definition of customized equipment in the second sentence of section 1834(a)(4) of the Act. Two commenters stated that we skirted congressional intent by not adopting that definition. One of these commenters believed that our perception that our long-standing definition has worked well is erroneous.

Response: Congress gave the Secretary the authority to define customized equipment and the option to implement the definition contained in the second sentence of section 1834(a)(4) of the Act. In choosing to define customized equipment solely in terms of the definition contained in the first sentence of section 1834(a)(4) of the Act, the Secretary has exercised this authority. As explained in the interim final rule, the definition contained in the second sentence of section 1834(a)(4) is so imprecise that virtually all medical equipment would meet the definition of customized equipment. This would prove administratively onerous and costly, benefiting neither the Medicare program nor Medicare beneficiaries. The only entities that would benefit from use of that definition would be those suppliers of equipment that would seek to increase payment amounts for standard equipment by billing as though the equipment were customized. We have no documentation indicating that our long-standing definition is not working well. As pointed out, the optional definition at section 1834(a)(4) of the Act is imprecise, and no appropriate alternatives were suggested by commenters.

Comment: Two commenters believed that the long-standing definition of customized equipment will hurt a beneficiary's access to needed medical equipment and will increase institutional costs or prices to consumers. A few commenters stated that the definition appears inconsistent with the intent of the Americans with Disabilities Act, which promotes access by the disabled to both transportation and opportunities in the job market, in that it creates a barrier to beneficiaries' access to customized equipment.

Response: Access to medically necessary equipment is not limited by virtue of its definition. Each of the various categories of DME is covered under Medicare if medical necessity is clearly justified. The definition merely distinguishes between customized and noncustomized equipment for the purpose of determining payment. Commenters did not document that beneficiaries have failed to receive medically necessary equipment. Further, we have heard of no instance under our definition where a beneficiary did not have access to a wheelchair, whether it is customized or noncustomized, if the beneficiary's medical condition warranted the particular type of wheelchair.

Since commenters did not document that beneficiaries failed to receive medically necessary equipment, they also could not document any increased beneficiary or institutional costs from that failure. However, it is very likely that adopting the broad definition of customized equipment and pricing that equipment on an unprofiled, individual consideration basis would increase the costs for equipment.

Comment: One commenter suggested that the word "substantially" be dropped from the definition of customized equipment. Another suggested that we eliminate the phrase "substantially modified" because it does not add any more to the definition than is already supplied by the phrase "uniquely constructed." The commenter believed that "substantially modified" could be interpreted to mean a wheelchair that merely has numerous special features added, such as individualized foot rests or seats, and that this does not appear to be our intent.

Response: If we removed the word "substantially," it could be argued that any equipment that was modified, no matter how insignificantly, meets the first half of the definition of customized equipment. We believe this would create unreasonable vulnerability for the program.

In regard to the second comment, an item could be built or constructed at the outset as customized equipment or a stock item could undergo such substantial modification that it warrants the description "customized." If we were to eliminate the phrase "substantially modified," it is possible that, in the latter circumstance, the item would not be considered by the carriers to be customized.

Comment: One commenter recommended that, in order to prevent suppliers from customizing equipment for their own financial gain when customizing is not medically necessary, the regulation clarify who specifies how equipment is to be customized. The commenter suggested that the phrase "according to the description and orders of a physician" be added to the criteria for a customized item.

Response: We agree and in this final rule have revised § 414.224(a), by adding the above phrase, to read—

> * * * a covered item (including a wheelchair) must be uniquely constructed or substantially modified for a specific beneficiary according to the description and orders of a physician and be so different from another item used for the same purpose that the two items cannot be grouped together for pricing purposes.

Comment: One commenter suggested that "uniquely constructed" should require a certificate of medical necessity signed by both a physician (orthopedist, neurologist, physiatrist) and a physical or occupational therapist who also certified that the feature or component is not currently available.

Response: Availability of a feature or component should not determine if it must be custom made. In other words, if a feature or component is unavailable solely because it is out-of-stock, it should not meet the definition of customized equipment. We fully agree that without detailed, written documentation from knowledgeable

professionals carriers cannot make informed judgments on the nature of and need for customized equipment. However, other personnel involved in the construction of the equipment, such as other supplier personnel or the manufacturer, may be in a better position than a physical or occupational therapist to know if an item must be uniquely constructed. As stated above, we agree that the item should be ordered by a physician.

Comment: Three commenters wanted us to clarify our intent to pay for the additional labor costs involved in the design, manufacture, and assembly of customized equipment.

Response: As we explained in the interim final rule (56 FR 65997), individual consideration is a process in which the carrier makes its best judgment concerning the reasonableness of the payment amount. At a minimum, we expect carriers to consider such factors as written documentation of the costs (including design, fabrication, and assembly costs) of the item including at least the cost of labor and types of materials used in customizing an item. We believe this clearly expresses our intent regarding the process that carriers must use in establishing a reasonable payment amount. Admittedly, this process will vary among the carriers. We expect the variance to be mitigated, however, after implementation of designated regional carriers for DME claims. (On November 6, 1991, we published in the **Federal Register** a proposed rule regarding designated regional carriers for DME claims (56 FR 55612), and we are developing a final rule.)

Comment: One commenter believed that the regulation should state that the material and labor costs must be based on the prevailing wage of the area where the customizing occurs.

Response: We do not believe it is appropriate to base payment for the cost of a customized item on the area prevailing wage. Rather, the carrier's individual consideration should take into account the actual costs of labor, to the extent that they are reasonable, of those actually performing the customization. This approach better reflects the true cost of customized equipment.

Comment: Three commenters stated that each of the Medicare carriers will interpret differently how to pay for customized equipment. Another commenter believed that the regulation will result in payment differences that are mainly a function of a carrier's judgment and unrelated to the actual cost of labor and material and other costs. The commenter added that the regulation should be based less on judgment and more on pricing data that are easily and routinely available.

Response: We agree that there will be payment differences as a result of carrier judgment and, for that reason, we are limiting the items in the customized payment category. That is why our rule states that the only items in this category are those that are so different from another item used for the same purpose that the two items cannot be grouped together for pricing purposes. The more objective, that is, less subject to an individual carrier's consideration and judgment, we make the payment methodology through the use of the current HCPCS, the less often carriers are required to make individual interpretations. For items that are so different that they cannot be grouped together, there are no pricing data that are easily and routinely available. Therefore, carriers must individually price these items based on their judgment. However, we expect the variance to be mitigated after implementation of designated regional carriers for DME claims.

Comment: A commenter stated that the regulation should provide what the carrier must accept as appropriate and adequate documentation of costs.

Response: We do not want to limit a carrier's individual consideration by requiring what would or would not constitute appropriate and adequate documentation of costs. Carriers have been making these individual considerations for many years and have significant expertise in making such judgments. Since this process has been working with success, we expect it will continue to do so.

Comment: A commenter stated that some suppliers will provide a customized wheelchair only if the beneficiary pays for the wheelchair upon delivery. Since some beneficiaries cannot afford the price of a wheelchair, they must wait until the Medicare carrier determines whether to cover the wheelchair and how much it will pay for the customized wheelchair.

Response: This is another reason for limiting as much as possible those items subject to the customized payment category. Fewer customized claims received by carriers translates into fewer claims that are subject to individual carrier consideration and judgment. The more often we can make payment through use of the current HCPCS, the less often carriers are required to make individual interpretations. A smaller number of claims requiring individual interpretation should reduce the processing time of wheelchair claims. If a supplier insists on payment by the beneficiary for a customized wheelchair upon delivery, we would suggest that the beneficiary obtain the customized wheelchair from a different supplier, one willing to await payment by the Medicare carrier.

Comment: One commenter believed the 30-day delay in the effective date for the interim final rule should not have been waived.

Response: As we explained in the interim final rule, a 30-day delay in the effective date for that rule would have caused the optional definition of customized wheelchairs in section 1834(a)(4) of the Act to go into effect on January 1, 1992. That would have resulted in increased cost to the Medicare program as well as administrative difficulties and confusion for suppliers and beneficiaries.

IV. Provisions of the Final Rule

This final rule reflects the interim final rule, with the following change, which is discussed in section III of this preamble:

We have revised § 414.224(a) to add that, to be considered a customized item, the unique construction or substantial modification must be according to the description and orders of a physician.

V. Regulatory Impact Statement

A. Executive Order 12291

Executive Order 12291 (E.O. 12291) requires us to prepare and publish a regulatory impact analysis for any final rule that meets one of the E.O. criteria for a "major rule"; that is, that will be likely to result in—

- An annual effect on the economy of $100 million or more;
- A major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or
- Significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

Since the impact on the Medicare program and on DME distributors and manufacturers is expected to be less than $100 million per year over the next 5 fiscal years, this final rule does not meet the $100 million criterion, nor do we believe that it meets the other E.O. criteria. Therefore, this final rule is not a major rule under E.O. 12291, and a regulatory impact analysis is not required.

B. Regulatory Flexibility Act

We generally prepare a regulatory flexibility analysis that is consistent with the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 through 612) unless the Secretary certifies that a final rule will not have a significant economic impact on a substantial number of small entities. For purposes of the RFA, we consider all DME distributors and manufacturers to be small entities.

In addition, section 1102(b) of the Act requires the Secretary to prepare a regulatory impact analysis if a final rule may have a significant impact on the operations of a substantial number of small rural hospitals. That analysis must conform to the provisions of section 604 of the RFA. For purposes of section 1102(b) of the Act, we define a small rural hospital as a hospital that has fewer than 50 beds and is located outside a Metropolitan Statistical Area.

The overall impact of this final rule on the DME industry is expected to be less than $100 million annually. Historically, total annual expenditures for customized wheelchairs have not exceeded $5 million. If, however, the optional, less precise definition of customized wheelchairs was adopted, we would expect suppliers to bill for customized wheelchairs even though the wheelchairs were not uniquely constructed or substantially modified. This would result in an increase in the estimated $5 million annual expenditures because the Medicare payment for a customized wheelchair is generally higher than the payment for a non-customized wheelchair. Thus, if the optional, less precise definition of customized wheelchairs was adopted, suppliers would have a financial incentive to bill as though the wheelchair was uniquely constructed or substantially modified.

For the above reasons, the Secretary certifies that this final rule will not result in a significant economic impact on a substantial number of small entities and will not have a significant impact on the operations of a substantial number of small rural hospitals. Therefore, we are not preparing analyses for either the RFA or section 1102(b) of the Act.

IV. Information Collection Requirements

This rule contains no information collection requirements. Consequently, this rule need not be reviewed by the Office of Management and Budget under the authority of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.).

List of Subjects in 42 CFR Part 414

Health professions, Kidney diseases, Laboratories, Medicare.

42 CFR part 414 is amended as set forth below:

PART 414—PAYMENT FOR PART B MEDICAL AND OTHER HEALTH SERVICES

1. The authority citation for part 414 continues to read as follows:

Authority: Secs. 1102, 1833(a), 1834(a), 1871, and 1881 of the Social Security Act (42 U.S.C. 1302, 1395l(a), 1395m(a), 1395hh, and 1395rr).

2. Section 414.224(a) is revised to read as follows:

§ 414.224 Customized items.

(a) *Criteria for a customized item.* To be considered a customized item for payment purposes under paragraph (b) of this section, a covered item (including a wheelchair) must be uniquely constructed or substantially modified for a specific beneficiary according to the description and orders of a physician and be so different from another item used for the same purpose that the two items cannot be grouped together for pricing purposes.

* * * * *

(Catalog of Federal Domestic Assistance Program No. 93.774, Medicare—Supplementary Medical Insurance Program.)

Dated: April 8, 1993.

William Toby, Jr.,

Acting Deputy Administrator, Health Care Financing Administration.

Dated: May 5, 1993.

Donna E. Shalala,

Secretary.

[FR Doc. 93–15295 Filed 6–29–93; 8:45 am]

BILLING CODE 4120–01–P

FEDERAL EMERGENCY MANAGEMENT AGENCY

44 CFR Part 81

[RIN 3067–AC16]

List of Jurisdictions Eligible for Sale of Crime Insurance

AGENCY: Federal Insurance Administration, FEMA.

ACTION: Interim rule.

SUMMARY: This interim rule restores the eligibility of the State of Tennessee, making its citizens eligible to purchase Federal crime insurance policies against burglary and robbery losses on and after June 30, 1993.

EFFECTIVE DATE: June 30, 1993.

ADDRESSES: Comments are encouraged and should be submitted to the Rules Docket Clerk, Office of the General Counsel, Federal Emergency Management Agency, 500 C Street, SW., Washington, DC 20472, (fax) (202) 646–4536.

FOR FURTHER INFORMATION CONTACT: Kimber A. Wald, Federal Insurance Administration, Federal Emergency Management Agency, 500 C Street SW., Washington, DC 20472, (202) 646–3440.

SUPPLEMENTARY INFORMATION: This interim rule amends the list of jurisdictions in which there exists a critical crime insurance availability problem that has not been resolved at the local level. The Acting Federal Insurance Administrator has determined there is a critical crime insurance availability problem in Tennessee based upon a letter dated May 2, 1993 from the Tennessee Department of Commerce and Insurance and an on-site evaluation by a representative of the Federal Insurance Administration.

National Environmental Policy Act

This rule is categorically excluded from the requirements of 44 CFR Part 10, Environmental Consideration. No environmental impact assessment has been prepared.

Regulatory Flexibility Act

I certify that this rule will not have a significant economic impact on a substantial number of small entities in accordance with the Regulatory Flexibility Act, 5 U.S.C. 601 et seq., because the rule is not expected (1) to adversely affect the availability of crime insurance to small entities, (2) to have significant secondary or incidental effects on a substantial number of small entities, and (3) to create any additional burden on small entities. As a result, a regulatory flexibility analysis has not been prepared.

Regulatory Impact Analysis

This rule is not a major rule under Executive Order 12291, Federal Regulation, February 17, 1981. No regulatory impact analysis has been prepared.

Paperwork Reduction Act

This rule does not involve any collection of information for purposes of the Paperwork Reduction Act.

Executive Order 12612, Federalism

This rule involves no policies that have federalism implications under Executive Order 12612, Federalism, dated October 26, 1987.

Executive Order 12778, Civil Justice Reform

This rule meets the applicable standards of section 2(b)(2) of Executive Order 12778.

List of Subjects in 44 CFR Part 81

Crime insurance.

Accordingly, 44 CFR part 81 is amended as follows:

PART 81—[AMENDED]

1. The authority citation for part 83 continues to read as follows:

Authority: 12 U.S.C. 1749bbb et seq.; Reorganization Plan No. 3 of 1978, 3 CFR, 1978 Comp., p. 329; E.O. 12127, 44 FR 19367, 3 CFR, 1979 Comp., p. 376.

§ 81.1 [Amended]

2. Section 81.1 is amended by revising paragraph (b)(1) to read as follows:

* * * * *

(b)(1) On the basis of the information available, the Federal Insurance Administrator has determined that the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, and the states set forth in this paragraph have an unresolved critical crime insurance market unavailability problem requiring the operation of the Federal Crime Insurance Program therein as of June 30, 1993.

California
Florida
Illinois
Kansas
Maryland
New Jersey
New York
Pennsylvania
Tennessee
District of Columbia
Puerto Rico
Virgin Islands

* * * * *

Dated: June 25, 1993.

Francis V. Reilly,

Acting Administrator, Federal Insurance Administration.

[FR Doc. 93–15398 Filed 6–29–93; 8:45 am]

BILLING CODE 6718–21–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 2

[GEN Docket No. 90–56; FCC 93–255]

Mobile-Satellite Service in the 1530–1544 and 1626.5–1645.5 MHz Bands

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: This First Report and Order amends the Table of Frequency Allocations found in § 2.106 of the Commission's Rules. Specifically, we allocate the 1530–1544 and 1626.5–1645.5 MHz bands to the mobile-satellite service (MSS), subject to requirements that priority and preemptive access be accorded maritime distress and safety communications. This action responds to a petition for rule making by Geostar Messaging Corporation (Geostar), RPM–6459. This action increases the amount of spectrum available to mobile-satellite services and implements results achieved at the 1992 World Administrative Radio Conference (WARC–92).

EFFECTIVE DATE: July 30, 1993.

FOR FURTHER INFORMATION CONTACT: Tom Mooring, Office of Engineering and Technology, (202) 653–8114.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's First Report and Order in GEN Docket No. 90–56, adopted on May 13, 1993, and released June 11, 1993. The complete text of this First Report and Order is available for inspection and copying during normal business hours in the FCC Reference Center (room 239), 1919 M Street, NW., Washington, DC, and also may be purchased from the Commission's duplication contractor, International Transcription Service, (202) 857–3800, 2100 M Street, NW., Suite 140, Washington DC 20037.

Summary of First Report and Order

1. The Commission concludes that there is an increasing demand for MSS services and that this projected demand warrants allocation of the 1530–1544 and 1626.5–1645.5 MHz bands to the MSS. Expanding the domestic allocation for the MSS will lead to additional voice and data services for the public.

2. The Commission recognizes the need to ensure the operation of maritime safety and distress communications, and therefore is adopting requirements identical to those that protect aeronautical safety services in the adjacent MSS bands. Specifically, we are requiring that priority and preemptive access be accorded maritime mobile-satellite distress and safety communications in the 1530–1544 and 1626.5–1645.5 MHz bands. MSS stations not providing such priority access to maritime safety communications and not participating in the global maritime distress and safety systems (GMDSS) will be permitted to operate in these bands only on a secondary basis.

3. Accordingly, to meet the projected demand for MSS services we are allocating 1530–1544 and 1626.5–1645.5 MHz to the MSS on a co-primary basis with the maritime mobile-satellite service (MMSS), subject to the conditions discussed above.

Final Regulatory Flexibility Analysis

4. Pursuant to 5 U.S.C. section 603, an initial Regulatory Flexibility Analysis was incorporated in the Notice of Proposed Rule Making in GEN Docket No.90–56/55 FR 8964, March 9, 1990. Written comments on the proposals in the Notice, including the Regulatory Flexibility Analysis, were requested.

A. Need for and Objective of Rules

This allocation is needed to meet demonstrated demand for mobile-satellite services. Our objective is to provide spectrum to meet this demand by allocating spectrum that will be shared between land mobile-satellite services, maritime mobile-satellite services, and aeronautical mobile-satellite services in the 1530–1544 and 1626.5–1645.5 MHz bands. We believe that sharing among the services in these bands is feasible and will serve the public interest. We also are adopting requirements to ensure that important maritime safety-related communications needs are fully met and protected.

B. Issues Raised by the Public in Response to the Initial Analysis

No party suggested specific modifications to the initial regulatory flexibility analysis.

C. Any Significant Alternative Minimizing Impact on Small Entities and Consistent with Stated Objectives

In the Notice of Proposed Rule Making, we proposed a spectrum allocation that we believed would address the demonstrated demand for MSS services and yet reduce administrative burdens to the public as much as possible. Based on the record, we conclude that the spectrum allocation being adopted in this proceeding is in the public interest and also minimizes the impact to small business entities. The Secretary shall send a copy of this Report and Order and Further Notice of Proposed Rule Making to the Chief Counsel for Advocacy of the Small Business Administration.

5. Accordingly, *It is ordered*, That part 2 of the Commission's Rules is amended as specified below, effective July 30, 1993. This action is taken pursuant to sections 4(i), 7(a), 303(f), 303(g), and 303(r), of the Communications Act of 1934, as amended, 47 U.S.C. sections 154(i), 157(a), 303(f), 303(g), and 303(r).

List of Subjects

47 CFR Part 2

Frequency Allocation, General Rules and regulations, Radio.

Donna R. Searcy,

Secretary.

Amendatory Text

Part 2 of chapter I of title 47 of the Code of Federal Regulations is amended as follows:

1. The authority citation in part 2 continues to read:

Authority: Sec. 4, 302, 303, and 307 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154, 154(i), 302, 303, 303(r), and 307, unless otherwise noted.

2. Section 2.106, the Table of Frequency Allocation is amended to read as follows:

a. Columns (1) through (3) in the 1525–1559 and 1626.5–1660.5 MHz bands and columns (4) through (7) in the 1435–1544 and 1626.5–1645.5 MHz bands are revised to read as follows:

§ 2.106 Table of frequency allocations.

* * * * * * *

International table			United States table		FCC use designators	
Regional 1—allocation MHz	Region 2—allocation MHz	Region 3—allocation MHz	Government Allocation MHz	Non-Government Allocation MHz	Rule part(s)	Special-use frequencies
(1)	(2)	(3)	(4)	(5)	(6)	(7)
•	•	•	•	•	•	•
			1435–1530 MOBILE (aeronautical telemetering)	1435–1530 MOBILE (aeronautical telemetering).	AVIATION (87).	
1525–1530 SPACE OPERATION (space-to-Earth). FIXED. MARITIME MOBILE–SATELLITE (space-to-Earth). Land Mobile-Satellite (space-to-Earth) 726B. Earth Exploration-Satellite Mobile except aeronautical mobile 724. 722 723B 725 726A 726D	1525–1530 SPACE OPERATION (space-to-Earth). MOBILE–SATELLITE (space-to-Earth). Earth Exploration-Satellite. Fixed. Mobile 723. 722 723A 726A 726D	1525–1530 SPACE OPERATION (space-to-Earth). FIXED. MOBILE–SATELLITE (space-to-Earth). Earth Exploration-Satellite. Mobile 723 724. 722 726A 726D	722 US78	722 US78		
1530–1533 SPACE OPERATION (space-to-Earth). MARITIME MOBILE–SATELLITE (space-to-Earth). LAND MOBILE–SATELLITE (space-to-Earth). Earth Exploration-Satellite. Fixed. Mobile except aeronautical mobile. 722 723B 726A 726D 1533–1535	1530–1533 SPACE OPERATION (space-to-Earth). MARITIME MOBILE–SATELLITE (space-to-Earth). LAND MOBILE–SATELLITE (space-to-Earth). Earth Exploration-Satellite. Fixed. Mobile 723. 722 726A 726C 726D 1533–1535	1530–1533 SPACE OPERATION (space-to-Earth). MARITIME MOBILE–SATELLITE (space-to-Earth). LAND MOBILE–SATELLITE (space-to-Earth). Earth Exploration-Satellite. Fixed. Mobile 723. 722 726A 726C 726D 1533–1535	1530–1535 MARITIME MOBILE–SATELLITE (space-to-Earth). MOBILE–SATELLITE (space-to-Earth). Mobile (aeronautical telemetering).	1530–1535 MARITIME MOBILE–SATELLITE (space-to-Earth). MOBILE–SATELLITE (space-to-Earth). Mobile (aeronautical telemetering).	SATELLITE COMMUNICATION (25). Aviation (87).	

International table			United States table		FCC use designators	
Regional 1—allocation MHz	Region 2—allocation MHz	Region 3—allocation MHz	Government	Non-Government	Rule part(s)	Special-use frequencies
			Allocation MHz	Allocation MHz		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
SPACE OPERATION (space-to-Earth).	SPACE OPERATION (space-to-Earth).	SPACE OPERATION (space-to-Earth).				
MARITIME MOBILE–SATELLITE (space-to-Earth).	MARITIME MOBILE–SATELLITE (space-to-Earth).	MARITIME MOBILE–SATELLITE (space-to-Earth).				
Earth Exploration-Satellite.	Earth Exploration-Satellite.	Earth Exploration-Satellite.				
Fixed.	Fixed.	Fixed.				
Mobile except aeronautical mobile.	Mobile 723.	Mobile 723.				
Land Mobile-Satellite (space-to-Earth) 726B.	Land Mobile-Satellite (space-to-Earth) 726B.	Land Mobile-Satellite (space-to-Earth) 726B.				
722 723B 726A 726D	722 726A 726C 726D	722 726A 726C 726D	722 726A US78 US315	722 726A US78 US315		
1544–1545	1544–1545	1544–1545				
MOBILE–SATELLITE (space-to-Earth).	MOBILE–SATELLITE (space-to-Earth).	MOBILE–SATELLITE (space-to-Earth).				
722 726D 727 727A	722 726D 727 727A	722 726D 727 727A				
1545–1555	1545–1555	1545–1555				
AERONAUTICAL MOBILE–SATELLITE (R) (space-to-Earth).	AERONAUTICAL MOBILE–SATELLITE (R) (space-to-Earth).	AERONAUTICAL MOBILE–SATELLITE (R) (space-to-Earth).				
722 726A 726D 727 729 729A 730	722 726A 726D 727 729 729A 730	722 726A 726D 727 729 729A 730				
1555–1559	1555–1559	1555–1559				
LAND MOBILE–SATELLITE (space-to-Earth).	LAND MOBILE–SATELLITE (space-to-Earth).	LAND MOBILE–SATELLITE (space-to-Earth).				
722 726A 72[illegible] 727 730 [illegible] 730B 730[illegible]	722 726A 726D 727 730 730A 730B 730C	722 726A 726D 727 730 730A 730B 730C				
1626.5–163[illegible]	1625.5–1631.5	1626.5–1631.5	1626.5–1645.5	1626.5–1645.5		
MARITIME M[illegible] BILE–SA[illegible] ELLITE (E[illegible] to-space)	MOBILE–SATELLITE (Earth-to-space).	MOBILE–SATELLITE (Earth-to-space).	MARITIME MOBILE–SATELLITE (Earth-to-space).	MARITIME MOBILE–SATELLITE (Earth-to-space).	MARITIME (80).	
Land Mobile-Satellite (Earth-space) 726[illegible]			MOBILE–SATELLITE (Earth-to-space).	MOBILE–SATELLITE (Earth-to-space).	SATELLITE COMMUNICATION (25).	
722 726A 72[illegible] 727 730	722 726A 726C 726D 727 730	722 726A 726C 726D 727 730				
1631.5–163[illegible]	1631.5–1634.5	1631.5–1634.5				
MARITIME [illegible] BILE–SA[illegible] ELLITE ([illegible] to-space).	MARITIME MOBILE–SATELLITE (Earth-to-space).	MARITIME MOBILE–SATELLITE (Earth-to-space).				
LAND MOBI[illegible] SATELLIT[illegible] (Earth-to-space).	LAND MOBILE–SATELLITE (Earth-to-space).	LAND MOBILE–SATELLITE (Earth-to-space).				
722 726A 726[illegible] 726D 727 730 734A	722 726A 726C 726D 727 730 734A	722 726A 726C 726D 727 730 734A				
1634.5–1645.5	1634.5–1645.5	1634.5–1645.5				
MARITIME MOBILE–SAT[illegible] ELLITE (Earth-to-space).	MARITIME MOBILE–SATELLITE (Earth-to-space).	MARITIME MOBILE–SATELLITE (Earth-to-space).				

International table			United States table		FCC use designators	
Regional 1—allocation MHz	Region 2—allocation MHz	Region 3—allocation MHz	Government	Non-Government	Rule part(s)	Special-use frequencies
			Allocation MHz	Allocation MHz		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Land Mobile-Satellite (Earth-to-space) 726B.	Land Mobile-Satellite (Earth-to-space) 726B.	Land Mobile-Satellite (Earth-to-space) 726B.				
722 726A 726C 726D 727 730 1645.5–1646.5	722 726A 726C 726D 727 730 1645.5–1646.5	722 726A 726C 726D 727 730 1645.5–1646.5	722 726A US315	722 726A US315		
MOBILE–SATELLITE (Earth-to-space).	MOBILE–SATELLITE (Earth-to-space).	MOBILE–SATELLITE (Earth-to-space).				
722 726D 734B 1646.5–1656.5	722 726D 734B 1646.5–1656.5	722 726D 734B 1646.5–1656.5				
AERONAUTICAL MOBILE–SATELLITE (R) (Earth-to-space).	AERONAUTICAL MOBILE–SATELLITE (R) (Earth-to-space).	AERONAUTICAL MOBILE–SATELLITE (R) (Earth-to-space).				
722 726A 726D 727 729A 730 735 1656.5–1660	722 726A 726D 727 729A 730 735 1656.5–1660	722 726A 726D 727 729A 730 735 1656.5–1660				
LAND MOBILE–SATELLITE (Earth-to-space).	LAND MOBILE–SATELLITE (Earth-to-space).	LAND MOBILE–SATELLITE (Earth-to-space).				
722 726A 726D 727 730 730A 730B 730C 734A 1660–1660.5	722 726A 726D 727 730 730A 730B 730C 734A 1660–1660.5	722 726A 726D 727 730 730A 730B 730C 734A 1660–1660.5				
RADIO ASTRONOMY	RADIO ASTRONOMY	RADIO ASTRONOMY				
LAND MOBILE–SATELLITE (Earth-to-space).	LAND MOBILE–SATELLITE (Earth-to-space).	LAND MOBILE–SATELLITE (Earth-to-space).				
722 726A 726D 730A 730B 730C 736	722 726A 726D 730A 730B 730C 736	722 726A 726D 730A 730B 730C 736				

b. Add 723B, 726C, 726D, 730B, and 730C to and remove 726 from the International Footnotes described in Section 2.106. Additionally, revise footnotes 724, 726A, and 726B. Finally, add US315 to the list of United States Footnotes.

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International Footnotes

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723B Additional allocation: In Belarus, the Russian Federation and Ukraine, the band 1429–1535 MHz is also allocated to the aeronautical mobile service on a primary basis exclusively for the purposes of aeronautical telemetry within the national territory. As of 1 April 2007, the use of the band 1452–1492 MHz is subject to agreement between the administrations concerned.

* * * * *

724 Different category of service: In Afghanistan, Saudi Arabia, Bahrain, Bulgaria, Cameroon, Egypt, The United Arab Emirates, France, Iran, Iraq, Israel, Kuwait, the Lebanon, Morocco, Mongolia, Oman, Poland, Qatar, Syria, the German Democratic Republic, Romania, Czechoslovakia, the U.S.S.R., Yemen and Yugoslavia, the allocation of the band 1525–1530 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 425).

* * * * *

726A The bands 1525–1544 MHz, 1545–1559 MHz, 1626.5–1645.5 MHz and 1646.5–1660.5 MHz shall not be used for feeder links of any service. In exceptional circumstances, however, an earth station at a specified fixed point in any of the mobile-satellite services may be authorized by an administration to communicate via space stations using these bands.

726B The use of the bands 1525–1530 MHz, 1533–1544 MHz, 1626.5–1631.5 MHz and 1634.5–1645.5 MHz by the land mobile-satellite service is limited to non-speech low bit-rate data transmissions.

726C Additional allocation: In Argentina, Australia, Brazil, Canada, the United States, Malaysia and Mexico, the band 1530–1544 MHz is allocated to the mobile-satellite (space-to-Earth) service, and the band 1626.5–1645.5 MHz is also allocated to the mobile-satellite (Earth-to-space) service, on a primary basis subject to the following conditions: maritime mobile-satellite distress and safety communications shall have priority access and immediate availability over all other mobile-satellite communications operating under this provision. Communications of mobile-satellite system stations not participating in the global maritime distress and safety system (GMDSS) shall operate on secondary basis to distress and safety communications of stations operating in the GMDSS. Account shall be taken of the priority of

safety-related communications in the other mobile-satellite services.

726D The use of the bands 1525–1559 and 1626.5–1660.5 MHz by the mobile-satellite services are subject to the application of the coordination and notification procedures set forth in Resolution 46 (WARC–92). In Regions 1 and 3 in the band 1525–1530 MHz coordination of space stations of the mobile-satellite services with respect to terrestrial services is required only if the power flux-density produced at the Earth's surface exceeds the limits in No. 2566. In respect of assignments operating in the band 1525–1530 MHz, the provisions of Section II, paragraph 2.2 of Resolution 46 (WARC–92) shall also be applied to geostationary transmitting space stations with respect to terrestrial stations.

* * * * *

730B Alternative allocation: In Australia, Canada and Mexico, the band 1555–1559 MHz is allocated to the mobile-satellite (space-to-Earth) service, the band 1656.5–1660 MHz is allocated to the mobile-satellite (Earth-to-space) service, and the band 1660–1660.5 MHz is allocated to the mobile-satellite (Earth-to-space) and the radio astronomy services, on a primary basis.

730C Alternative allocation: In Argentina and the United States, the band 1555–1559 MHz is allocated to the mobile-satellite (space-to-Earth) service, the band 1656.5–1660 MHz is allocated to the mobile-satellite (Earth-to-space) service, and the band 1660–1660.5 MHz is allocated to the mobile-satellite (Earth-to-space) and radio astronomy services, on a primary basis subject to the following conditions: the aeronautical mobile-satellite (R) service shall have priority access and immediate availability over all other mobile-satellite communications within a network operating under this provision; mobile-satellite systems shall be interoperable with the aeronautical mobile-satellite (R) service; account shall be taken of the priority of safety-related communications in the other mobile-satellite services.

* * * * *

United States (U.S.) Footnotes

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US315 In the frequency bands 1530–1544 MHz and 1626.5–1645.5 MHz maritime mobile-satellite distress and safety communications, e.g., GMDSS, shall have priority access with real-time preemptive capability in the mobile-satellite service. Communications of mobile-satellite system stations not participating in the GMDSS shall operate on a secondary basis to distress and safety communications of stations operating in the GMDSS. Account shall be taken of the priority of safety-related communications in the mobile-satellite service.

* * * * *

[FR Doc. 93–15232 Filed 6–29–93; 8:45 am]
BILLING CODE 6712–01–M

DEPARTMENT OF ENERGY

48 CFR Part 970

Acquisition Regulation; Facilities Management

AGENCY: Department of Energy (DOE).

ACTION: Final Rule

SUMMARY: The Department is amending the Department of Energy Acquisition Regulation (DEAR) to add new provisions entitled "Facilities Management" for its management and operating contractors. This new provision specifies a contract clause to be used in any contracts that provide for contractor management of DOE-owned or DOE-controlled facilities. These provisions standardize the manner in which DOE and its contractors manage DOE-owned and DOE-controlled facilities. This action follows publication of a notice of proposed rulemaking in the **Federal Register** on September 3, 1991, 56 FR 43577. Five comments were received and are discussed at a later section.

EFFECTIVE DATE: August 30, 1993.

FOR FURTHER INFORMATION CONTACT:

Richard B. Langston, Office of Procurement, Assistance and Program Management (PR–121) Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586–8247.

Anne Troy, Office of the Assistant General Counsel for Procurement and Finance (GC–34), Department of Energy, 1000 Independence Avenue, SW., Washington, DC 20585, (202) 586–1526.

SUPPLEMENTARY INFORMATION:

I. Background
II. Discussion of Comments Received
III. Procedural Requirements
A. Regulatory Analysis
B. Review Under Executive Order 12778
C. Review Under the Regulatory Flexibility Act
D. Review Under the Paperwork Reduction Act
E. Review Under Executive Order 12612
F. National Environmental Policy Act

I. Background.

Under section 644 of the Department of Energy Organization Act, Public Law 95–91 (42 U.S.C. 7254), the Secretary of Energy is authorized to prescribe such procedural rules and regulations as are necessary to accomplish the Department's functions. That same Act, at section 501, requires that rules relating to public property, loans, grants, or contracts be promulgated following the rulemaking protocol of the Administrative Procedures Act, Public Law 89–554 (44 U.S.C. 1501–1515). Accordingly, the DEAR was promulgated with an effective date of April 1, 1984 (49 FR 11922, March 28, 1984), 48 CFR chapter 9.

The Department is amending the DEAR to specify a clause, at Section 970.5204–60, Facilities management, that will be used in contracts calling for contractor management of DOE-owned facilities. Also added is a new Subpart 970.72, Facilities management, which will prescribe the use of the clause.

II. Discussion of Comments Received

A summary of the comments received and the Department's response to the issues and concerns raised by the commenters follows. One commenter suggested that the rule was not needed as the standard practice could be specified in each of the existing contracts. While the commenter's observation is correct, DOE must ensure, due to section 501 of the DOE Organization Act, Public Law 95–91 (42 U.S.C. 7254), that any contract rules are promulgated through the rulemaking protocol of the Administrative Procedures Act, Public Law 89–554 (5 U.S.C. 551–559). The commenter suggested that we add the specific identifying numbers and dates of the DOE Directives referenced in the clause. DOE does not wish to include such specificity as future revisions are expected to result in changes in the identifying numbers and dates of the directives and result in the need to update this regulation each time one of the directives is revised. The first commenter suggested that an instructional preamble be added to the clause to instruct personnel to take local conditions into account such as the division of facility management responsibilities if more than one management and operating contractor is at a site. This suggestion has been adopted. This commenter also suggested that the words in the third sentence of the maintenance management paragraph of the clause be changed to read, "The contractor shall maintain property to enhance the property's ability, throughout its life, to meet the requirements for which it was designed." This has been done.

One commenter offered three suggestions regarding the guidance on general design criteria. An exception was requested for buildings located off the site which are leased for the contractor's use. Such an exception has been added in the form of a new final sentence at paragraph (b) of the clause. The commenter was concerned that DOE's general design criteria are more demanding than usual commercial design practices. DOE is unable to do this as general design criteria are required for the construction of new Federal facilities. The commenter suggested the added costs to comply with general design criteria would require the contractor to divert funds from existing research projects. New Government construction projects are separate budget line items and are the source of a direct appropriation separate from those for contract research.

One commenter observed that the contractor develops the initial site plans based on the intended purpose of the facility and questioned whether this negates the first sentence of paragraph (a) of the clause. DOE does not believe this to be the case. The Government specifies the purpose of the facility and approves the plan developed by the contractor. The commenter observed that there are inherent technical difficulties in adopting general design criteria at a site. The commenter suggested that maintenance management is, by its nature, subject to local conditions and observed that it would be difficult to specify detailed procedures that could be uniformly implemented at all of DOE's diverse sites. DOE agrees. A preamble has been added to the clause noting that it may be necessary to tailor it to local conditions.

One commenter questioned the DOE position that the regulation creates no new paperwork burdens and does not require review by the OMB under the Paperwork Reduction Act. These burdens, associated with 10 CFR 436.56, were previously cleared by OMB. This action is deemed necessary to ensure a more standard approach. The commenter asked clarification of the reference to 908.3 in paragraph (d) of the clause. That reference should have been to 970.0803 and has been corrected.

III. Procedural Requirements

A. Regulatory Review

Pursuant to the January 22, 1993, memorandum on the subject of regulatory review from the Director of the Office of Management and Budget (58 FR 6074, January 25, 1993), DOE submitted this notice to the Director for appropriate review. The Director has completed his review. Separately, DOE has determined that there is no need for a regulatory impact analysis because the rule is not a major rule as that term is defined in section 1(b) of Executive Order 12291.

B. Review Under Executive Order 12778

Section 2 of Executive Order 12778 instructs each agency subject to Executive Order 12291 to adhere to certain requirements in promulgating new regulations and reviewing existing regulations. These requirements, set forth in sections 2(a) and 2(b), include eliminating drafting errors and needless ambiguity, drafting the regulations to minimize litigation, providing clear and certain legal standards for affected conduct, and promoting simplification and burden reduction. Agencies are also instructed to make every reasonable effort to ensure that the regulation: specifies clearly any preemptive effect, effect on existing Federal law or regulation, and retroactive effect; describes any administrative proceedings to be available prior to judicial review and any provisions for the exhaustion of such administrative proceedings; and defines key terms. DOE certifies that today's proposal meets the requirements of sections 2(a) and 2(b) of Executive Order 12778.

C. Review Under the Regulatory Flexibility Act

This proposal was reviewed under the Regulatory Flexibility Act of 1980, Public Law 96–354, which requires preparation of a regulatory flexibility analysis for any proposed rule which is likely to have a significant economic impact on a substantial number of small entities. This proposed rule will have no impact on interest rates, tax policies or liabilities, the cost of goods or services, or other direct economic factors. It will also not have any indirect economic consequences, such as changed construction rates. DOE certifies that this proposed rule will not have a significant economic impact on a substantial number of small entities and, therefore, no regulatory flexibility analysis has been prepared.

D. Review Under the Paperwork Reduction Act

No new information collection or recordkeeping requirements are imposed by this proposed rule. Accordingly, no OMB clearance is required under the Paperwork Reduction Act of 1980 (44 U.S.C. 3501, *et seq.*).

E. Review Under Executive Order 12612

Executive Order 12612, entitled "Federalism," 52 FR 41685 (October 30, 1987), requires that regulations, rules, legislation, and any other policy actions be reviewed for any substantial direct effects on states, on the relationship between the Federal government and the states, or in the distribution of power and responsibilities among various levels of government. If there are sufficient substantial direct effects, then the Executive Order requires preparation of a federalism assessment to be used in all decisions involved in promulgating and implementing a policy action. This proposed rule will not affect states. It deals with relations between Federal agencies.

F. National Environmental Policy Act

DOE has concluded that this proposed rule would not represent a major Federal action having significant impact on the human environment under the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321, *et seq.*) (1976) or the Council on Environmental Quality Regulations (40 CFR parts 1500–1508) and, therefore, does not require an environmental impact statement or an environmental assessment pursuant to NEPA.

List of Subjects in 48 CFR Part 970

Government procurement.

Issued in Washington, DC., on June 22, 1993.

Berton J. Roth,

Acting Director, Office of Procurement, Assistance and Program Management.

For the reasons set out in the preamble, part 970 of title 48 of the Code of Federal Regulations is amended as set forth below.

PART 970—DOE MANAGEMENT AND OPERATING CONTRACTS

1. The authority citation for part 970 continues to read as follows:

Authority: Sec. 161 of the Atomic Energy Act of 1954 (42 U.S.C. 2201), sec. 644 of the Department of Energy Organization Act, Pub. L. 95–91 (42 U.S.C. 7254), sec. 201 of the Federal Civilian Employee and Contractor Travel Expenses Act of 1985 (41 U.S.C. 420) and sec. 1534 of the Department of Defense Authorization Act of 1986, Pub. L. 99–145 (42 U.S.C. 7256a), as amended.

2. Section 970.5204–60 is added as set forth below:

970.5204–60 Facilities management.

Pursuant to 970.72 the following clause is to be used in contracts providing for contractor management of a DOE-owned or DOE-controlled facility or facilities.

Facilities Management: August 30, 1993. Copies of DOE Directives referenced herein are available from the contracting officer.

(a) *Site development planning.* The Government shall provide to the contractor site development guidance for the facilities and lands for which the contractor is responsible under the terms and conditions of this contract. Based upon this guidance, the contractor shall prepare, and maintain through annual updates, a Long-Range Site Development Plan (Plan) to reflect those actions necessary to keep the development of these facilities current with the needs of the Government and allow the contractor to successfully accomplish the work required under this contract. In developing this Plan, the contractor shall follow the procedural guidance set forth in DOE Directive 4300.1C, version in effect on effective date of contract, entitled *Site Development Planning.* The contractor shall use the Plan to manage and control the development of facilities and lands. All plans and revisions shall be approved by the Government.

(b) *General design criteria.* The general design criteria which shall be utilized by the contractor in managing the site for which it is responsible under this contract are those specified in DOE Directive 6430.1, version in effect on effective date of contract, entitled *General Design Criteria.* The contractor shall comply with these mandatory, minimally acceptable requirements for all facility designs with regard to any building acquisition, new facility, facility addition or alteration or facility lease undertaken as part of the site development activities of paragraph (a) above. This includes on-site constructed buildings, pre-engineered buildings, plan-fabricated modular buildings, and temporary facilities. For existing facilities, original design criteria apply to the structure in general; however, additions or modifications shall comply with this directive and the associated latest editions of the references therein. An exception may be granted for off-site office space being leased by the contractor on a temporary basis.

(c) *Maintenance management.* In its management of property on the site for which it is responsible under this contract, the contractor shall comply with the provisions of DOE Directive 4330.4 A, version in effect on effective date of contract, entitled *Maintenance Management Programs,* requiring the establishment and execution of a maintenance management program for all property under the contractor's control. The contractor shall maintain property for which it is accountable in a manner which promotes operational safety, environmental protection and compliance, property preservation, and cost effectiveness. The contractor shall maintain property to enhance the property's ability, throughout its life, to meet the requirements for which it was designed. This will include periodic examination of the property to determine any deterioration or technical obsolescence which may threaten performance or safety.

(d) *Energy management.* The contractor shall manage the facilities for which it is responsible under the terms and conditions of this contract in an energy efficient manner in accordance with DOE Directive 4330.2C, version in effect on effective date of contract, entitled *In-House Energy Management.* The contractor shall develop a 10-year energy management plan for each site with annual reviews and revisions. The contractor shall submit an annual report on progress toward achieving the goals of the 10-year plan for each individual site, and an energy conservation analysis report for each new building or building addition project. Any acquisition of utility services by the contractor shall be conducted in accordance with 970.0803.

(e) *Capital assets management.* The contractor shall manage the planning, programming, and budgeting for the capital assets of the site for which the contractor is responsible under the terms and conditions of this contract according to, and consistent with, the requirements of DOE Directive 4320.2, version in effect on effective date of contract, entitled *Capital Assets Management Process.* The contractor shall prepare and submit to the Contracting Officer all appropriate data and documents required by the Directive for that site.

(f) *Subcontract requirements.* To the extent the contractor subcontracts performance of any of the responsibilities discussed in this clause, the subcontract shall contain the requirements of this clause relative to the subcontracted responsibilities.

3. Subpart 970.72 is added as follows:

Subpart 970.72—Facilities Management

970.7201 Policy.

Contractors managing DOE facilities shall be required to comply with the DOE Directives applicable to facilities management. To accomplish this, all management and operating contracts which include contractor management of a DOE-owned facility shall contain the clause at 970.5204–60, Facilities management, specifying the Directives applicable to the contractual situation at the DOE facility involved.

[FR Doc. 93–15452 Filed 6–29–93; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AB75

Endangered and Threatened Wildlife and Plants; "Lasmigona decorata" (Carolina Heelsplitter) Determined to be Endangered

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines the Carolina heelsplitter (*Lasmigona decorata*) to be an endangered species under the authority contained in the Endangered Species Act of 1973, as amended (Act). This species was historically known from several locations within the Catawba River and Pee Dee River systems in North Carolina and the Saluda and Pee Dee River systems in South Carolina. It is presently known to be surviving in only a few short reaches each of Waxhaw Creek (Catawba River system) and Goose Creek (Pee Dee River system), Union County, North Carolina; in a short reach of the Lynches River (Pee Dee River system), Chesterfield, Lancaster, and Kershaw Counties, South Carolina; and in a short reach of Flat Creek, a tributary to the Lynches River in Lancaster County, South Carolina. The species' range has been seriously reduced by impoundments and the general deterioration of habitat and water quality resulting from siltation and other pollutants contributed by poor land use practices. Due to the species' limited distribution, any factors that adversely modify habitat or water quality in the stream reaches it now inhabits could further endanger the species.

EFFECTIVE DATE: July 30, 1993.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Asheville Field Office, 330 Ridgefield Court, Asheville, North Carolina 28806.

FOR FURTHER INFORMATION CONTACT: Mr John Fridell at the above address (704/665–1195, Ext. 225).

SUPPLEMENTARY INFORMATION:

Background

The Carolina heelsplitter was originally described as *Unio decoratus* by Lea (1852). In 1970, Johnson synonymized this species with *Lasmigona subviridis* (Conrad 1835). Clarke (1985) recognized the Carolina heelsplitter as a distinct species, *Lasmigona decorata*, and synonymized *Unio charlottensis* (Lea 1863) and *Unio insolidus* (Lea 1872) with *Lasmigona decorata*.

The Carolina heelsplitter has an ovate, trapezoid-shaped, unsculptured shell. The shell of the largest known specimen of the species measures 118.0 mm in length, 40 mm in width, and 63.5 mm in height (Keferl 1991). The shell's outer surface varies from greenish-brown to dark brown in color, and shells from younger specimens have faint greenish-brown or black rays. The nacre (inside surface) is often pearly-white to bluish-white, grading to orange in the area of the umbo (Keferl 1991). However, in

older specimens the entire nacre may be a mottled pale orange (Keferl 1991).

Because of its rarity, little is known of the biology of the Carolina heelsplitter. Historically the species was reported from small to large streams and rivers, as well as ponds. The "ponds" referred to in historic records are believed to have been mill ponds on some of the smaller streams within the species' historic range (Keferl 1991). Presently, the species is known to occur in only three small streams and one small river and is usually found in mud, muddy sand, or muddy gravel substrates along stable, well-shaded stream banks (Keferl and Shelly 1988, Keferl 1991). The stability of stream banks appears to be very important to the species (Keferl 1991). Like other freshwater mussels, the Carolina heelsplitter feeds by filtering food particles from the water. It has a complex reproductive cycle in which the mussel larvae (glochidia) parasitize fish. The mussel's life span, fish species its larvae parasitize, and many other aspects of its life history are unknown.

Prior to 1987, the Carolina heelsplitter had not been found since the mid-19th century (Keferl and Shelly 1988, Keferl 1991). Historically, the species was collected from the Catawba River, Mecklenburg County, North Carolina; several streams and "ponds" in the Catawba River system around the Charlotte area of Mecklenburg County, North Carolina; one small stream in the Pee Dee River system in Cabarrus County, North Carolina; and an area in South Carolina referred to as the "Abbeville District," a term no longer employed (Clarke 1985, Keferl and Shelly 1988, Keferl 1991). The records from the Abbeville District, South Carolina, are believed to have been from the Saluda River system (Clarke 1985, Keferl and Shelly 1988, Keferl 1991). An additional record of the Carolina heelsplitter in the Oconee River in Georgia is believed to be a misidentification (E. Kefrel, Brunswick College, personal communication, 1992).

During the period of 1987–1990, the Service funded status surveys of the Carolina heelsplitter to determine the species' present status. Altogether, 667 different sites in 356 different rivers, streams, and impoundments within historic and potential habitat of the species in the Saluda River, Catawba River, Pee Dee River, Broad River, Rocky River, and Lynches River systems were intensively surveyed (Keferl and Shelly 1988, Keferl 1991). The Carolina heelsplitter was found to have been eliminated from all the streams from which it was known to have been historically collected, and only three surviving populations were found. One small remnant population was found in the Catawba River system in Waxhaw Creek, a tributary to the Catawba River, Union County, North Carolina; another small population was discovered in a short stretch of Goose Creek, a tributary to the Rocky River in the Pee Dee River system, Union County, North Carolina; and a third, slightly larger population, was discovered in the Lynches River, part of the Pee Dee River system, Chesterfield, Lancaster, and Kershaw Counties, South Carolina, and in Flat Creek, a tributary to the Lynches River, Lancaster County, South Carolina. No evidence of a surviving population was found anywhere in the Saluda River system, and no evidence of the species was found in the Broad River system.

Habitat and water quality degradation/alteration resulting from impoundments; stream channelization; dredging; sand mining; sewage effluents; and poorly implemented agricultural, forestry, and development practices are believed to be the primary factors resulting in the elimination of the species throughout the majority of its historic range. All three of the remaining populations are located in areas bordered entirely, with the exception of State bridge and road rights-of-way, by private lands and are threatened by these same factors. Both the Waxhaw Creek and Goose Creek populations are threatened by impacts associated with agriculture, logging, and construction and development activities. At present the Flat Creek portion of the Lynches River/Flat Creek population at present does not appear to be affected by human-related habitat destruction/alteration activities. However, the Lynches River is suffering the same problems occurring in the Waxhaw and Goose Creeks drainages and is also being impacted by heavy nutrient and pollutant loads from wastewater treatment plants, as well from other point and nonpoint sources.

The Carolina heelsplitter was recognized by the Service in the January 6, 1989, **Federal Register** (54 FR 579) as a species being reviewed for potential addition to the Federal List of Endangered and Threatened Wildlife and Plants. This mussel was placed in category 2 on this candidate list. Category 2 species are those for which the Service has some information indicating that the taxa may be under threat, but sufficient information is lacking to prepare a proposed rule. The Service has met and been in contact with various knowledgeable Federal and State agency personnel and private individuals knowledgeable concerning the species' status. On March 8, 1990, and October 30, 1990, the Service notified appropriate Federal, State, and local government agencies, in writing, that a status review was being conducted and that the species might be proposed for Federal listing. Five written comments were received. The U.S. Army Corps of Engineers, State agencies in both North Carolina and South Carolina, and an interested biologist expressed their support of the species' being protected under the Endangered Species Act. No negative comments were received.

On May 26, 1992, the Service published in the **Federal Register** (57 FR 21925) a proposal to list the Carolina heelsplitter as an endangered species. That proposal provided information on the species' biology, status, and threats to its continued existence.

Summary of Comments and Recommendations

In the May 26, 1992, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A legal notice, which invited general public comment, was published in the following newspapers: The Lancaster News, Lancaster, South Carolina, June 3, 1992; Chronicle-Independent, Camden, South Carolina, June 10, 1992; Cheraw Chronicle, Cheraw, South Carolina, June 11, 1992; and Enquirer-Journal, Monroe, North Carolina, June 10, 1992. Thirteen written comments were received in response to the proposed rule. Two comments supported the listing; one opposed the listing "at this time" and requested additional information on the species and its status; two offered no opinion concerning the listing but requested copies of the status survey reports for the species; and eight expressed no opinion regarding the listing but either requested additional information concerning the species (three respondents), requested a delay in the listing process to assess economic impacts (two respondents), requested that the Service publish a taking implication assessment prior to listing (two respondents), and/or expressed opposition to certain statements within the proposed rule (three respondents). Opposing comments and other comments questioning the rule have been organized into nine specific issues.

These issues and the Service's response to each are summarized as follows:

One respondent questioned whether the Carolina heelsplitter warranted endangered species listing. The Service has carefully assessed the best scientific and commercial information available concerning the taxonomy, biology, distribution, status, and threats to the continued existence of the Carolina heelsplitter in making the determination to list the species as endangered. This included a review of literature, State data bases, and museum records; intensive surveys of historic and potential habitat; correspondence with other Federal, State, and private agencies, companies, and individuals knowledgeable about the species; and all relevant comments received throughout the listing and notification process. Based on a thorough review of all available information, the Service has determined that: (1) The Carolina heelsplitter has been eliminated from a significant portion of its historic range and has been reduced to three small populations, occupying only three small creeks and one small river (see "SUMMARY" and "BACKGROUND" sections above); and (2) the surviving populations of the Carolina heelsplitter are endangered by many of the same factors that have resulted in the extirpation of the species throughout the majority of its historic range (see "SUMMARY" and "BACKGROUND" sections above, and "Summary of Factors Affecting the Species" section, below).

One respondent inquired concerning information used to determine the historic range of the Carolina heelsplitter and questioned the reliability of this information. Another respondent questioned whether the species might occur in other areas of the United States or the world. The known historic range of the Carolina heelsplitter is based upon information provided by Lea (1852, 1863, 1972), Johnson (1970), Clark (1985), Keferl and Shelly (1988), and Keferl (1991). The Service considers all of these reliable sources. Waxhaw Creek, Goose Creek, Flat Creek, and the Lynches River are the only streams within the United States in which this species is still known to occur (Keferl 1991). Based on a review of all available information, the Carolina heelsplitter has never been found outside the United States.

Two respondents expressed concern that the present range of the Carolina heelsplitter as defined in the proposed rule was too broad. Specifically, they referred to the statement on page 21925 in the SUMMARY section of the proposed rule, that the species "* * * is presently known to be surviving in only a few short reaches of Waxhaw Creek (Catawba River system) and Goose Creek (Pee Dee River system) in North Carolina, and the Lynches River (Pee Dee River system) and Flat Creek, a tributary to the Lynches River, in South Carolina." They interpreted this statement to indicate that the Service was including all of the Lynches River in South Carolina within the present range of the Carolina heelsplitter. The Service did not mean to imply that the entire Lynches River in South Carolina is being considered as part of the present range of the Carolina heelsplitter. The Service has attempted to clarify this statement in the "SUMMARY" section of this document. The Carolina heelsplitter is presently known to occur in only a few short reaches of the Lynches River in Lancaster, Chesterfield, and Kershaw Counties, South Carolina; a short reach of Flat Creek in Kershaw County, South Carolina; and a few short reaches each of Waxhaw and Goose Creeks in Union County, North Carolina.

One respondent questioned whether the species was already extinct and, if not, whether any remaining population(s) of the species might already be below the level required to maintain long-term genetic viability. Based on the results of surveys conducted by Keferl (1991), the Carolina heelsplitter is believed to be surviving in a few short reaches of Waxhaw and Goose Creeks in North Carolina (albeit in very low numbers), and in a few short reaches of the Lynches River and Flat Creek in South Carolina (see the "SUMMARY" and "BACKGROUND" sections above). The small size and geographic isolation of the three remaining populations reduce the genetic diversity within the populations and make the long-term genetic viability of these populations of concern to the Service (see Factor E of the "Summary of Factors Affecting the Species" section below). Additional research is needed in this area, and the Service will address this (as well as other activities necessary to ensure long-term survival of the species) through the development and implementation of a recovery plan for the Carolina heelsplitter (as directed by section 4(f) of the Act) and through other means (see "Available Conservation Measures" section below).

One respondent inquired concerning the specific threats to the Carolina heelsplitter. The three known surviving populations of the Carolina heelsplitter are potentially threatened by a wide variety of factors (see "Summary of Factors Affecting the Species" section below).

One respondent asked whether there has been any research on the translocation and artificial propagation of freshwater mussels. In the Southeast, research on artificial propagation and translocation of freshwater mussels is currently being conducted by the Service at Tennessee Technological University and Virginia Polytechnic Institute and State University. The Tennessee Valley Authority, University of North Alabama, Aquatic Resources Center (in Franklin, Tennessee), and several other Federal, State, and private agencies and institutions have also conducted research in mussel propagation and relocation. While substantial progress has been and is being made, much more work is needed to perfect freshwater mussel propagation and translocation techniques before these techniques can be applied in the conservation and recovery of endangered mussels.

Two respondents expressed concern about the economic impact the listing might have on municipal and industrial discharges and requested that the Service extend the comment period to allow for an assessment of these impacts. Under section 4(b)(1)(A) of the Act, a listing determination must be based solely on the best scientific and commercial data available concerning the status of a species and after taking into account those efforts, if any, being made to protect such species. The legislative history of this provision clearly states that the intent of Congress is to ensure that listing decisions are "based solely on biological criteria and to prevent non-biological considerations from affecting such decisions" H.R. Rep. No. 97–835, 97th Cong. 2nd Sess. 19 (1982). As further stated in the legislative history, "economic considerations have no relevance to determinations regarding the status of the species." Because the Service is precluded from considering economic impacts in a listing decision, the Service determined that an extension of the comment period to assess possible economic consequences of the listing of the Carolina heelsplitter was not warranted.

Two respondents requested that, prior to listing of the Carolina heelsplitter, the Service prepare, and publish in the Federal Register, a "Taking Impact Assessment" under Executive Order 12630 that assesses the impacts of the listing on private property. The Attorney General has issued guidelines to the Department of the Interior (Department) on the implementation of Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property

Rights. Under these guidelines, a special rule applies when an agency within the Department is required by law to act solely upon specified criteria that leave the agency no discretion. In enacting the Endangered Species Act, Congress required the Department to list species based solely upon scientific and commercial data indicating whether they are in danger of extinction. The Service is forbidden by law from withholding a listing based on concerns regarding economic impact and is required to act, with appropriate public notice, under strict time tables. Any failure to comply subjects the agency to potential legal action. Accordingly, the provisions of the Attorney General's guidelines relating to nondiscretionary actions clearly are applicable to the determination of endangered status for the Carolina heelsplitter, and Taking Implication Assessments under the Executive Order cannot be considered in making this administrative decision that must, by law, be made without regard to its economic impact. Since the Act precludes consideration of economic factors during the listing process, the Service's policy is to consider taking implications following publication of final rules.

Two respondents objected to statements in the proposed rule that forestry and logging operations are a threat to the continued existence of the Carolina heelsplitter. Both respondents stated that forestry operations, which include such protective measures as implementation of Best Management Practices (BMPs) and Streamside Management Zones (SMZs) are being voluntarily implemented by the majority of landowners and that implementation of BMPs is on the increase. The Service agrees that many landowners and timber companies operating within the watersheds of the streams still occupied by the Carolina heelsplitter are practicing responsible timber management and harvest operations and that properly implemented State-recommended BMPs and SMZs for timber harvest operations significantly reduce the potential impacts of logging operations on the Carolina heelsplitter. The Service strongly encourages implementation of North Carolina's and South Carolina's recommended SMZs and BMPs and commends those landowners, foresters, and timber companies who are implementing them. However, as noted by both respondents, not all landowners are implementing these protective measures. Logging activities that have resulted in the removal of trees right to the top of the stream banks have occurred in recent years along both the Lynches River and the lower reaches of Goose Creek (E. Keferl, personal communication, 1992). Such activities adversely affect stream shading and can lead to erosion and destabilization of the stream banks and increased runoff of sediments and other pollutants into the streams from adjacent uplands. Therefore, the Service continues to believe that poorly implemented logging activities, when considered individually or in combination with the effects of other land disturbance activities occurring within the watersheds of the streams still occupied by the Carolina heelsplitter, pose a significant threat to the continued existence of the species.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that the Carolina heelsplitter should be classified as an endangered species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 et seq.) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to the Carolina heelsplitter (*Lasmigona decorata*) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range.

Historic and recent collection records for the Carolina heelsplitter indicate that the species was once fairly widespread throughout portions of the Catawba River system in North Carolina, the Pee Dee River system in North and South Carolina, and the Saluda River system in South Carolina (Clarke 1985, Keferl and Shelly 1988, Keferl 1991). The species apparently no longer exists in the Saluda River system and, with the exception of a short stretch of Waxhaw Creek, has been eliminated from the Catawba River system (Keferl 1991). In the Pee Dee River system, only two small populations remain—the Goose Creek population and the Lynches River/Flat Creek population (Keferl 1991). This decline in the species throughout its range has been attributed to several factors, including siltation resulting from poorly implemented land use practices during agricultural, forestry, and construction activities; runoff and discharge of municipal, industrial, and agricultural pollutants; habitat alterations associated with impoundments, channelization, dredging, and sand mining operations; and other natural and human-related factors that adversely modify the aquatic environment. Many of these same factors threaten the three remaining populations of the species.

Both the Waxhaw Creek and Goose Creek populations are extremely small. Only one live individual of the species was found in Waxhaw Creek in 1987 and only two in 1990 (Keferl 1991). Three live specimens were found in Goose Creek in 1987, and only one was found in 1990 (Keferl 1991). Waxhaw Creek and Goose Creek are small streams containing only a limited amount of suitable habitat for the Carolina heelsplitter (E. Keferl, personal communication, 1991). The Lynches River/Flat Creek population, though the healthiest of the three surviving populations, also appears to be relatively small and is restricted to a few scattered sites along a short reach of the Lynches River and a small section of Flat Creek (Keferl, personal communication, 1991). During the 1987–1990 surveys, a total of only 12 live specimens of the Carolina heelsplitter were found in the Lynches River, and only 2 live individuals were found in Flat Creek (both were found in 1990) (Keferl 1991). The low numbers of individuals and the restricted range of the populations make each of the three remaining populations extremely vulnerable to extirpation from a single catastrophic event, such as a toxic chemical spill. Also, the existing and potential future land uses of the surrounding area threaten the habitat and water quality of all three populations with increased discharge or runoff of silt, sediments, and organic and chemical pollutants.

Of the four streams where the Carolina heelsplitter still occurs, only Flat Creek appears to be relatively undisturbed by human activities. Waxhaw Creek, Goose Creek, and the Lynches River flow through areas where they are subject to sedimentation and pollutants from agriculture and other farming activities (presently the primary land use within the watersheds of these streams). Also, all three streams receive drainage from areas that are developing rapidly. In addition, poorly implemented logging activities, particularly along the Lynches River and Goose Creek, also appear to be having a detrimental effect on the streams. In some areas, trees and shrubs have been cleared right up to the stream banks, thereby increasing the siltation of the streams and adversely affecting shading of the streams and the stability of the stream banks.

Heavy nutrient and pollutant loads (i.e., fertilizers, organic wastes, pesticides, heavy metals, oil, salts, etc.) from wastewater treatment facility effluents, agricultural fields, urban and rural residential and industrial areas, highways, and other point and nonpoint sources also threaten the continued existence of the remaining populations. Though at present this appears to be more of a problem in the Lynches River than in the other streams, it will likely become more of a threat to the Goose Creek and Waxhaw Creek populations as development increases within their drainages.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes.

This freshwater mussel species is not commercially valuable, but, because it is extremely rare, it could be sought by collectors. Because of the species' restricted range, taking could be a threat to its continued existence. Federal listing would help control any indiscriminate taking of individuals.

C. Disease or Predation.

Although the Carolina heelsplitter is presumably utilized for food by mammals, such as the muskrat, raccoon, and mink, predation is not thought to be a significant factor in the decline of the species.

D. The Inadequacy of Existing Regulatory Mechanisms.

The States of North Carolina and South Carolina prohibit the taking of fishes and wildlife, including freshwater mussels, for scientific purposes without a State collecting permit. However, the species are not generally protected from other threats. Federal listing will provide additional protection under the Endangered Species Act by requiring Federal permits to take the species and by requiring Federal agencies to consult with the Service when actions they fund, authorize, or carry out are likely to affect the species.

E. Other Natural or Manmade Factors Affecting Its Continued Existence.

Only three populations of the species are known to still exist—one population each in Waxhaw Creek and Goose Creek and one population in the Lynches River that extends into Flat Creek. All three populations appear to be extremely small (particularly the Waxhaw Creek and Goose Creek populations, which appear to be comprised of only a few individuals), and all three populations are geographically isolated from one another. This isolation prohibits the natural interchange of genetic material between populations, and the small population size reduces the reservoir of genetic variability within populations. It is highly possible that these populations may already be below the level required to maintain long-term genetic viability.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this rule final. Based on this evaluation, the preferred action is to list the Carolina heelsplitter (*Lasmigona decorata*) as an endangered species. The species has been eliminated from the Saluda River system, and its range has been greatly reduced in the other two river systems (the Catawba and Pee Dee) in which the species historically occurred. Presently only three small isolated populations are known to survive. These populations are threatened by a variety of factors, including road construction activities, residential and commercial development, logging and farming activities, water pollution, and other manmade and natural factors adversely affecting the aquatic environment. Due to the species' history of population losses and the extreme vulnerability of the three surviving populations, endangered appears to be the most appropriate classification for this species (see "Critical Habitat" section for a discussion of why critical habitat is not being proposed for the Carolina heelsplitter).

Critical Habitat

Section 4(a)(3) of the Act requires, to the maximum extent prudent and determinable, that the Secretary designate critical habitat at the time a species is determined to be endangered or threatened. Title 50, part 424 of the Code of Federal Regulations, § 424.12(1) states that designation of critical habitat is not prudent when one or both of the following situations exist: (i) The species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of such threat to the species, or (ii) Such designation of critical habitat would not be beneficial to the species. The Service finds that designation of critical habitat is not prudent for both reasons.

The Service believes that the potential for taking represents a significant threat to the Carolina heelsplitter. This species is so rare as to increase the likelihood that it may be sought both for scientific purposes and for private collections. The publication of critical habitat maps and other publicity accompanying critical habitat designation could increase that threat. The locations of populations of this species have consequently been described only in general terms for purposes of this rulemaking action.

Critical habitat also would not be beneficial in terms of adding additional protection for the species under section 7 of the Act. Regulations promulgated for the implementation of section 7 provide for both a "jeopardy" standard and a "destruction or adverse modification" of critical habitat standard. Due to the highly precarious status of the Carolina heelsplitter, any Federal action likely to adversely affect the species would trigger both standards. Under these conditions, the "destruction or adverse modification" standard adds no measurable benefit to protection of the species.

As part of the development of this rule, Federal, State, and local government agencies were notified of this species' distribution. They were requested to provide data on proposed Federal actions that might adversely affect the species, and no specific projects were identified. Should any future projects be proposed in areas inhabited by this mussel, the involved agency/agencies would already have the distribution data needed to determine if the species could potentially be affected by their action. Also, any existing precise locality data needed would be available to appropriate Federal, State, and local government agencies through the Service office described in the "ADDRESSES" section.

Accordingly, for the above reasons it is the Service's determination that critical habitat designation would not be prudent for the Carolina heelsplitter.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its

critical habitat if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. The Service has notified the Federal agencies that may have programs that affect the species. Federal activities that occur and impact the species include, but are not limited to, the carrying out or the issuance of permits for reservoir construction, stream alterations, wastewater facility development, hydroelectric facility construction and operation, and road and bridge construction. It has been the experience of the Service, however, that nearly all section 7 consultations have been resolved so that the species has been protected and the project objectives have been met.

The Act and implementing regulations found at 50 CFR 17.21 set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, or collect; or to attempt any of these), import or export, ship in interstate commerce in the course of a commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22 and 17.23. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

Clarke, A.H. 1985. The Tribe Alasmidontini (Unionidae: Anodontinae), Part II: *Lasmigona* and *Simpsonaias*. Smithsonian Contributions to Zoology, (399):57–60. Smithsonian Institution Press, 75 pp., 22 figures, 14 tables.

Conrad, T.A. 1835. Appendix (to: New Fresh Water Shells of the United States with colored illustrations, and a monograph of the genus *Anculotus* of Say; also a synopsis of the American naiades. 76 pp.) Additions to, and corrections of, the catalogue of species of American naiades, with descriptions of new species and varieties of fresh water shells. Judah Dobson, Philadelphia, PA. P. 4, pl. 9, fig. 1.

Johnson, R.I. 1970. The Systematics and Zoogeography of the Unionidae (Mollusca: Bivalvia) of the Southern Atlantic Slope Region. Bulletin of the Museum of Comparative Zoology, Harvard University, 140(6):263–449.

Keferl, E.P. 1991. A Status Survey for the Carolina Heelsplitter (*Lasmigona decorata*), a Freshwater Mussel Endemic to the Carolinas. Unpublished report to the U.S. Department of the Interior, Fish and Wildlife Service. 51 pp.

Keferl, E.P., and R.M. Shelly. 1988. The Final Report on a Status Survey of the Carolina Heelsplitter, *Lasmigona decorata*, and the Carolina elktoe, *Alasmidonta robusta*. Unpublished report to the U.S. Department of the Interior, Fish and Wildlife Service. 47 pp.

Lea, I. 1852. Description of New Species of the Family Unionidae. Transactions of the American Philosophical Society, 10:253–294 (Reprinted in 1852 in Observations on the Genus Unio, 5:9–50).

Lea, I. 1863. Description of Twenty-Four New Species of Unionidae of the United States. Proceeding of the Academy of Natural Sciences of Philadelphia, 15:191–194.

Lea, I. 1872. Description of Twenty-Nine New Species of Unionidae of the United States. Proceeding of the Academy of Natural Sciences of Philadelphia, 24:155–161.

Author

The primary author of this rule is John A. Fridell (see "**ADDRESSES**" section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

PART 17—[AMENDED]

Accordingly, part 17, subchapter B of chapter I, title 50, of the Code of Federal Regulations, is amended as set forth below:

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. Amend § 17.11(h) for animals by adding the following, in alphabetical order under CLAMS, to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
•	•	•	•	•	•		•
CLAMS							
•	•	•	•	•	•		•
Heelsplitter, Carolina	Lasmigona decorata	U.S.A. (NC, SC)	NA	E	505	NA	NA
•	•	•	•	•	•		•

Dated: June 3, 1993.

Bruce Blanchard,

Acting Director, Fish and Wildlife Service.

[FR Doc. 93–15366 Filed 6–29–93; 8:45 am]

BILLING CODE 4310-55-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration (NOAA)

50 CFR Part 675

[Docket No. 921185–3021; I.D. 062493A]

Groundfish of the Bering Sea and Aleutian Islands Area

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Modification of a closure.

SUMMARY: NMFS is rescinding the closure to directed fishing by operators of vessels using trawl gear for aggregate species in the rock sole/"other flatfish" fishery category in the Bering Sea and Aleutian Islands management area (BSAI). This action is necessary to fully utilize the 1993 second seasonal apportionment of Pacific halibut bycatch mortality allowance to the trawl rock sole/"other flatfish" fishery category in the BSAI.

EFFECTIVE DATE: Effective 12 noon, A.l.t., June 24, 1993, through 12 noon, A.l.t., July 4, 1993.

FOR FURTHER INFORMATION CONTACT: Andrew N. Smoker, Resource Management Specialist, NMFS, 907–586–7228.

SUPPLEMENTARY INFORMATION: The groundfish fishery in the BSAI exclusive economic zone is managed by the Secretary of Commerce according to the Fishery Management Plan for the Groundfish Fishery of the BSAI Area (FMP) prepared by the North Pacific Fishery Management Council under authority of the Magnuson Fishery Conservation and Management Act. Fishing by U.S. vessels is governed by regulations implementing the FMP at 50 CFR parts 620 and 675.

The directed fishery by operators of vessels using trawl gear for aggregate species in the rock sole/"other flatfish" fishery category in the BSAI was previously closed under § 675.21(c)(1)(iv) (58 FR 29793, May 24, 1993).

The Regional Director, Alaska Region, NMFS, has determined that the 1993 second seasonal apportionment of Pacific halibut bycatch mortality allowance to the aggregate species in the trawl rock sole/"other flatfish" fishery category in the BSAI has not been reached. Therefore, NMFS is rescinding that closure and is re-opening directed fishing by operators of vessels using trawl gear for the rock sole/"other flatfish" fishery in the BSAI, in areas for which other closures are not in effect, effective at 12 noon, A.l.t., June 24, 1993, through 12 noon, A.l.t., July 4, 1993.

All other closures remain in full force and effect, including the closure to directed fishing in Bycatch Limitation Zone 1 for aggregate species in the trawl rock sole/"other flatfish" fishery category in the BSAI (58 FR 9129, February 19, 1993).

Classification

This act is taken under §§ 675.20, 675.21, and 675.23 and complies with E.O. 12291.

List of Subjects in 50 CFR 675

Fisheries, Reporting and recordkeeping requirements.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: June 24, 1993.

Richard H. Schaefer,

Director of Office of Fisheries, Conservation and Management, National Marine Fisheries Service.

[FR Doc. 92–15340 Filed 6–24–93; 8:45 am]

BILLING CODE 3510-22-M

Proposed Rules

Federal Register
Vol. 58, No. 124
Wednesday, June 30, 1993

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF AGRICULTURE

Agricultural Marketing Service

7 CFR Part 58

[DA–91–010A]

Grading and Inspection, General Specifications for Approved Plants and Standards for Grades of Dairy Products; United States Standards for Grades of Colby Cheese

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Proposed rule.

SUMMARY: This document proposes to revise the United States Standards for Grades of Colby Cheese by modifying the standards to recognize technological changes in manufacturing practices and to more accurately describe consumer-acceptable product. The proposal expands the permissible range of open body characteristics to include colby cheese manufactured using automated equipment. The proposal was initiated at the request of the National Cheese Institute (NCI) and was developed in cooperation with NCI and other dairy trade associations.

DATES: Comments should be filed by August 30, 1993.

ADDRESSES: Comments should be sent to: Director, Dairy Division, Agricultural Marketing Service, U.S. Department of Agriculture, room 2968–S, PO Box 96456, Washington, DC 20090–6456. They will be available for public inspection at the Dairy Division in room 2750–S during regular business hours.

FOR FURTHER INFORMATION CONTACT: Roland S. Golden, Dairy Products Marketing Specialist, Dairy Standardization Branch, USDA/AMS/Dairy Division, room 2750–S, PO Box 96456, Washington, DC 20090–6456, (202) 720–7473.

SUPPLEMENTARY INFORMATION: This proposed rule has been reviewed under USDA guidelines implementing Executive Order 12291 and Departmental Regulation 1512–1 and has been classified as a "non-major" rule under the criteria contained therein.

This proposed rule has been reviewed under Executive Order 12778, Civil Justice Reform. This action is not intended to have retroactive effect. This rule would not preempt any State or local laws, regulations, or policies, unless they present an irreconcilable conflict with this rule. There are no administrative procedures which must be exhausted prior to any judicial challenge to the provisions of this rule.

The proposed rule also has been reviewed in accordance with the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.* The Administrator, Agricultural Marketing Service, has determined that the proposed rule, if promulgated, would not have a significant economic impact on a substantial number of small entities because use of the standards is voluntary and the revisions would not increase costs to those utilizing the standards.

To recognize technological changes in the manufacture of colby cheese and to accurately assess the quality of consumer-acceptable product, USDA is proposing the following changes in the U.S. Standards for Grades of Colby Cheese.

1. Expand Body and Texture Criteria to Permit U.S. Grade Assignment to Colby Cheese That Contains Less Than Numerous Mechanical Openings

The current U.S. Standards for Grades of Colby Cheese became effective in 1973. When these standards were established, production procedures encouraged the formation of numerous small mechanical openings evenly distributed throughout the cheese. Since then, automated manufacturing processes have been developed which have altered traditional body characteristics. Colby cheese that is produced using automated production technology has resulted in cheese that no longer exhibits numerous mechanical openings. Cheese produced in this manner is readily available and is capturing an increasing share of the colby cheese market. Changes in body characteristics have not altered the flavor or reduced the useability of the cheese.

Changes in the standards would provide for the assignment of U.S. grades to colby cheese that contains less than numerous mechanical openings or that may be completely devoid of mechanical openings. These changes do not disallow mechanical openings in cheese produced using traditional production methods. No additional changes to body and texture characteristics are being proposed.

2. Modify the U.S. Grade Standard by Deleting the Requirement That Cheese Be Held at a Temperature No Lower Than 35 °F. for 10 Days Prior to Grading

The current U.S. Standards for Grades of Colby Cheese include a requisite that the cheese be held at a temperature no lower than 35 °F. during the required 10-day aging period prior to grading. This is the only U.S. grade standard for cheeses that contains the temperature requirement. The proposed revision would eliminate the temperature requirement and provide increased consistency among U.S. grade standards for various types of cheeses.

3. Modify the Permitted Flavor Characteristics by Deleting the Provision for Very Slight Bitter in U.S. Grade A Colby Cheese

Bitter flavor in colby cheese is generally found in higher moisture cheese and increases in intensity as the cheese ages. U.S. grade may be assigned to colby cheese once it has reached 10 days of age. Any evidence of a bitter flavor at this time will intensify as the cheese ages. Provisions for slight bitter flavor remain the same for U.S. Grade B Colby Cheese. No additional changes to flavor characteristics are being proposed.

4. Redefine Packaging Requirements

Proposed changes in packaging requirements would provide greater clarity and expand the types of packaging methods permitted. The general-type packaging requirements outlined in this proposed revision would recognize the packaging methods (such as, rinded and paraffin-dipped, rindless and wrapped, and rindless and paraffin-dipped), that are used in the cheese industry today, and provide latitude for future developments in packaging technology.

5. Update the Terminology and Format of the Standards

The current U.S. Standards for Grades of Colby Cheese were established in 1973. Since that time, changes in

terminology and formatting have taken place. The proposal would update the standards and provide consistency among the various U.S. grade standards for cheeses.

USDA grade standards are voluntary standards that are developed pursuant to the Agricultural Marketing Act of 1946 (7 U.S.C. 1621 *et seq.*) to facilitate the marketing process. Manufacturers of dairy products are free to choose whether or not to use these grade standards. USDA grade standards for dairy products have been developed to identify the degree of quality in the various products. Quality in general refers to usefulness, desirability, and value of the product—its marketability as a commodity. When colby cheese is officially graded, the USDA regulations and standards governing the grading of manufactured or processed dairy products are used. These regulations also require a charge for the grading service provided by USDA. The Agency believes this proposal would accurately identify quality characteristics of colby cheese currently available.

List of Subjects in 7 CFR Part 58

Dairy products, Food grades and standards, Food labeling, Reporting and recordkeeping requirements.

For the reasons set forth in the preamble, it is proposed that 7 CFR part 58 be amended as follows:

PART 58—[AMENDED]

1. The authority citation for 7 CFR part 58 continues to read as follows:

Authority: Agricultural Marketing Act of 1946, Secs. 202–208, 60 Stat. 1087, as amended; 7 U.S.C. 1621–1627, unless otherwise noted.

2. Subpart J—United States Standards for Grades of Colby Cheese is revised to read as follows:

Subpart J—United States Standards for Grades of Colby Cheese

Definitions

Sec.

58.2475 Colby cheese.
58.2476 Types of surface protection.

U.S. Grades

58.2477 Nomenclature of U.S. grades.
58.2478 Basis for determination of U.S. grade.
58.2479 Specifications for U.S. grades.
58.2480 U.S. grade not assignable.

Explanation of Terms

58.2481 Explanation of terms.

Subpart J—United States Standards for Grades of Colby Cheese [1]

Definitions

§ 58.2475 Colby cheese.

Colby cheese is cheese made by the colby process or by any other procedure which produces a finished cheese having the same organoleptic, physical, and chemical properties as the cheese produced by the colby process. The cheese is made from cow's milk with or without the addition of artificial coloring. It contains added common salt and not more than 40 percent moisture, its total solids content is not less than 50 percent milkfat, and it conforms to the applicable provisions of 21 CFR part 133, "Cheeses and Related Cheese Products," as issued by the Food and Drug Administration.

§ 58.2476 Types of surface protection.

The following are the types of surface protection for colby cheese:

(a) *Rinded and paraffin-dipped.* The cheese that has formed a rind is dipped in a refined paraffin, amorphous wax, microcrystalline wax, or other suitable substance. Such coating is a continuous, unbroken, and uniform film adhering tightly to the entire surface of the cheese rind.

(b) *Rindless.*—(1) *Wrapped.* The cheese is completely enveloped in a tight-fitting wrapper or other protective covering, which is sealed with sufficient overlap or satisfactory closure. The wrapper or covering shall not impart color or objectionable taste or odor to the cheese. The wrapper or covering shall be of sufficiently low permeability to air so as to prevent the formation of a rind.

(2) *Paraffin-dipped.* The cheese is dipped in a refined paraffin, amorphous wax, microcrystalline wax, or other suitable substance. The paraffin shall be applied so that it is continuous, unbroken, and uniformly adheres tightly to the entire surface. If a wrapper or coating is applied to the cheese prior to paraffin dipping, it shall completely envelop the cheese and not impart color or objectionable taste or odor to the cheese.

U.S. Grades

§ 58.2477 Nomenclature of U.S. grades.

The nomenclature of U.S. grades is as follows:

(a) U.S. Grade AA.
(b) U.S. Grade A.
(c) U.S. Grade B.

[1] Compliance with these standards does not excuse failure to comply with the provisions of the Federal Food, Drug and Cosmetic Act.

§ 58.2478 Basis for determination of U.S. grade.

(a) The cheese shall be graded no sooner than 10 days of age.

(b) The rating of each quality factor shall be established on the basis of characteristics present in any vat of cheese.

(c) The U.S. grades of colby cheese are determined on the basis of rating the following quality factors:

(1) Flavor.
(2) Body and texture.
(3) Color.
(4) Finish and appearance.

(d) The final U.S. grade shall be determined on the basis of the lowest rating of any one of the quality factors.

§ 58.2479 Specifications for U.S. grades.

(a) *U.S. Grade AA.* U.S. Grade AA Colby Cheese shall conform to the following requirements (See Tables I, II, III, and IV of this section):

(1) *Flavor.* The cheese shall possess a fine and highly pleasing colby cheese flavor which is free from undesirable tastes and odors; or it may be lacking in flavor development. The cheese may possess a very slight feed flavor. See Table I of this section.

(2) *Body and Texture.* A plug drawn from the cheese shall be firm. Dependent upon the method of manufacture, a satisfactory plug may exhibit evenly distributed small mechanical openings or a close body. The cheese shall not possess sweet holes, yeast holes, or other gas holes. The texture may be definitely curdy. See Table II of this section.

(3) *Color.* The color shall be uniform and bright. If colored, the cheese should be a medium yellow-orange. See Table III of this section.

(4) *Finish and appearance.*—(i) *Rinded and paraffin-dipped.* The bandage shall be evenly placed over the entire surface of the cheese and be free from unnecessary overlapping and wrinkles, and not burst or torn. The rind shall be sound, firm, smooth, and provide good protection to the cheese. The surface shall be smooth, bright, and have a good coating of wax or coating that adheres firmly to all surfaces. The cheese shall be free from mold under the paraffin. The cheese shall be free from high edges, huffing, or lopsidedness, but may possess soiled surface to a very slight degree. See Table IV of this section.

(ii) *Rindless and wrapped.* The wrapper or covering shall be practically smooth and properly sealed with adequate overlapping at the seams or sealed by any other satisfactory type of closure. The wrapper or covering shall be neat and shall adequately and

securely envelop the cheese, but may be slightly wrinkled. Allowance should be made for slight wrinkles caused by crimping or sealing when vacuum packaging is used. The cheese shall be free from mold under the wrapper or covering and shall not be huffed or lopsided. See Table IV of this section.

(iii) *Rindless and paraffin-dipped.* The cheese surface shall be smooth, bright, and have a good coating of paraffin that adheres firmly. If a wrapper or coating is applied prior to paraffin dipping, it shall completely envelop the cheese. The cheese shall be free from high edges, huffing, lopsidedness, or mold. The cheese may possess soiled surface to a very slight degree. The wrapper may be wrinkled to a slight degree. See Table IV of this section.

(b) *U.S. Grade A.* U.S. Grade A Colby Cheese shall conform to the following requirements (See Tables I, II, III, and IV of this section):

(1) *Flavor.* The cheese shall possess a pleasing colby cheese flavor which is free from undesirable tastes and odors; or it may be lacking in flavor development. The cheese may possess very slight acid or feed flavor to a slight degree. See Table I of this section.

(2) *Body and texture.* A plug drawn from the cheese shall be reasonably firm. Dependent upon the method of manufacture, a satisfactory plug may exhibit evenly distributed mechanical openings or a close body. The plug shall be free from sweet holes, yeast holes, or other gas holes. The body may be very slightly loosely knit or definitely curdy. See Table II of this section.

(3) *Color.* The color shall be fairly uniform and bright. If colored, the cheese shall be a medium yellow-orange. The cheese may possess waviness to a very slight degree. See Table III of this section.

(4) *Finish and appearance.* (i) *Rinded and paraffin-dipped.* The bandage shall be evenly placed over the entire surface of the cheese and not be burst or torn. The rind shall be sound, firm, smooth, and provide good protection to the cheese. The surface shall be practically smooth, bright, and have a good coating of paraffin that adheres firmly to all surfaces. The cheese shall be free from mold under the paraffin. The cheese may possess the following characteristics to a very slight degree: Soiled surface or surface mold; and to a slight degree: High edges, irregular press cloth, lopsided, or rough surface. See Table IV of this section.

(ii) *Rindless and wrapped.* The wrapper or covering shall be practically smooth, properly sealed with adequate overlapping at the seams or sealed by any other satisfactory type of closure. The wrapper or covering shall be neat and adequately and securely envelop the cheese but may be slightly wrinkled. Allowance should be made for slight wrinkles caused by crimping or sealing when vacuum packaging is used. The cheese shall be free from mold under the wrapper or covering and shall not be huffed but may possess to a slight degree: High edges, lopsided, irregular press cloth, or rough surface. See Table IV of this section.

(iii) *Rindless and paraffin-dipped.* The cheese surface shall be bright and have a good coating of paraffin that adheres firmly. If a wrapper or coating is applied prior to paraffin dipping, it shall completely envelop the cheese and have a good coating of paraffin that adheres firmly. The cheese may possess soiled surface to a very slight degree. The cheese shall be free from mold, and may possess to a slight degree: High edges, lopsided, irregular press cloth, or rough surface. The wrapper may be wrinkled to a slight degree. See Table IV of this section.

(c) *U.S. Grade B.* U.S. Grade B Colby Cheese shall conform to the following requirements (See Tables I, II, III, and IV of this section):

(1) *Flavor.* The cheese may possess a fairly pleasing colby cheese flavor; or it may be lacking in flavor development. The cheese may possess onion or sour flavor to a very slight degree; barny, bitter, flat, fruity, malty, old milk, rancid, utensil, weedy, whey-taint, or yeasty flavor to a slight degree; and acid or feed flavor to a definite degree. See Table I of this section.

(2) *Body and texture.* A plug drawn from the cheese shall be moderately firm. Dependent upon the method of manufacture, a satisfactory plug may exhibit mechanical openings or a close body. The cheese may possess the following characteristics to a slight degree: Coarse, corky, crumbly, gassy, loosely knit, mealy, pasty, short, slitty, sweet holes, or weak; and the following to a definite degree: curdy. See Table II of this section.

(3) *Color.* The cheese may possess the following characteristics to a slight degree: Acid-cut, dull, faded, mottled, salt spots, seamy, unnatural, or wavy. In addition, rindless colby cheese may have a bleached surface to a slight degree. See Table III of this section.

(4) *Finish and appearance.*—(i) *Rinded and paraffin-dipped.* The bandage shall be placed over the entire surface of the cheese and may be uneven and wrinkled, but not burst or torn. The rind shall be reasonably sound and free from soft spots, rind rot, cracks, or openings of any kind. The surface may be rough and unattractive but shall possess a fairly good coating of paraffin. The paraffin may be scaly or blistered. with very slight mold under the bandage or paraffin, but there shall be no indication that mold has entered the cheese. The cheese may possess the following characteristics to a slight degree: Checked rind, defective coating, soiled surface, sour rind, surface mold, or weak rind; and to a definite degree: High edges, irregular press cloth, lopsided, or rough surface. See Table IV of this section.

(ii) *Rindless and wrapped.* The wrapper or covering shall be unbroken and shall adequately and securely envelop the cheese. The following may be present to a very slight degree: Mold under the wrapper but not entering the cheese; to a slight degree: Soiled surface or surface mold; and to a definite degree: high edges, irregular press cloth, lopsided, rough surface, or wrinkled wrapper or cover. See Table IV of this section.

(iii) *Rindless and paraffin-dipped.* The wrapper or coating applied prior to paraffin dipping shall adequately and securely envelop the cheese and have a coating of paraffin that adheres firmly to the cheese wrapper or shall be unbroken but may be definitely wrinkled. The paraffin may be scaly or blistered, with very slight mold under the paraffin, but there shall be no indication that mold has entered the cheese. The cheese may possess the following characteristics to a slight degree: Defective coating, soiled surface, or surface mold; and the following to a definite degree: High edges, lopsided, irregular press cloth, or rough surface. See Table IV of this section.

TABLE I.—CLASSIFICATION OF FLAVOR WITH CORRESPONDING U.S. GRADE

Flavor characteristics	AA	A	B
Acid	—[1]	VS[2]	D[4]
Barny	—[1]	—[1]	S[3]
Bitter	—[1]	—[1]	S[3]
Feed	VS[2]	S[3]	D[4]
Flat	—[1]	—[1]	S[3]
Fruity	—[1]	—[1]	S[3]
Malty	—[1]	—[1]	S[3]
Old milk	—[1]	—[1]	S[3]
Onion	—[1]	—[1]	VS[2]
Rancid	—[1]	—[1]	S[3]
Sour	—[1]	—[1]	VS[4]
Utensil	—[1]	—[1]	S[3]
Weedy	—[1]	—[1]	S[3]
Whey-taint	—[1]	—[1]	S[3]
Yeasty	—[1]	—[1]	S[3]

[1] (—) = Not permitted
[2] VS = Very Slight
[3] S = Slight
[4] D = Definite

TABLE II.—CLASSIFICATION OF BODY AND TEXTURE WITH CORRESPONDING U.S. GRADE

Body and texture characteristics	AA	A	B
Coarse	—[1]	—[1]	S[3]
Corky	—[1]	—[1]	S[3]
Crumbly	—[1]	—[1]	S[3]
Curdy	D[4]	D[4]	D[4]
Gassy	—[1]	—[1]	S[3]
Loosely knit	—[1]	VS[2]	S[3]
Mealy	—[1]	—[1]	S[3]
Pasty	—[1]	—[1]	S[3]
Short	—[1]	—[1]	S[3]
Slitty	—[1]	—[1]	S[3]
Sweet holes	—[1]	—[1]	S[3]
Weak	—[1]	—[1]	S[3]

[1] (—) = Not permitted
[2] VS = Very Slight
[3] S = Slight
[4] D = Definite

TABLE III.—CLASSIFICATION OF COLOR WITH CORRESPONDING U.S. GRADE

Color characteristics	AA	A	B
Acid-cut	—[1]	—[1]	S[3]
Bleached surface (rindless).	—[1]	—[1]	S[3]
Dull or faded	—[1]	—[1]	S[3]
Mottled	—[1]	—[1]	S[3]
Salt spots	—[1]	—[1]	S[3]
Seamy	—[1]	—[1]	S[3]
Unnatural	—[1]	—[1]	S[3]
Wavy	—[1]	VS[2]	S[3]

[1] (—) = Not permitted
[2] VS = Very Slight
[3] S = Slight
[4] D = Definite

TABLE IV.—CLASSIFICATION OF FINISH AND APPEARANCE WITH CORRESPONDING U.S. GRADE

Finish and appearance characteristics	AA	A	B
Rindless:			
Defective coating (paraffin-dipped: scaly, blistered, and checked).	—[1]	—[1]	S[3]
High edges	—[1]	S[3]	D[4]
Irregular press cloth (uneven, wrinkled, and improper overlapping).	—[1]	S[3]	D[4]
Lopsided	—[1]	S[3]	D[4]
Mold under wrapper or covering.	—[1]	—[1]	VS[2]
Rough surface	—[1]	S[3]	D[4]
Soiled surface	—[1]	—[1]	S[3]
Soiled surface (paraffin-dipped).	VS[2]	VS[2]	S[3]
Surface mold	—[1]	—[1]	S[3]
Wrinkled wrapper or covering (paraffin-dipped).	S[3]	S[3]	D[4]
Rinded:			
Checked rind	—[1]	—[1]	S[3]

TABLE IV.—CLASSIFICATION OF FINISH AND APPEARANCE WITH CORRESPONDING U.S. GRADE—Continued

Finish and appearance characteristics	AA	A	B
Defective coating (scaly, blistered, and checked).	—[1]	—[1]	S[3]
High edges	—[1]	S[3]	D[4]
Irregular press cloth (uneven, wrinkled, and improper overlapping).	—[1]	S[3]	D[4]
Lopsided	—[1]	S[3]	D[4]
Mold under paraffin	—[1]	—[1]	VS[2]
Rough surface	—[1]	S[3]	D[4]
Soiled surface	VS[2]	VS[2]	S[3]
Sour rind	—[1]	—[1]	S[3]
Surface mold	—[1]	VS[2]	S[3]
Weak rind	—[1]	—[1]	S[3]

[1] (—) = Not permitted
[2] VS = Very Slight
[3] S = Slight
[4] D = Definite

§ 58.2480 U.S. grade not assignable.

Colby cheese shall not be assigned a U.S. grade for one or more of the following reasons:

(a) The cheese fails to meet or exceed the requirements for U.S. Grade B.

(b) The cheese is produced in a plant that is rated ineligible for USDA grading service or is not USDA-approved.

Explanation of Terms

§ 58.2481 Explanation of terms.

(a) *With respect to types of surface protection:*—(1) *Paraffin.* Refined paraffin, amorphous wax, microcrystalline wax, or any combination of such or any other suitable substance.

(2) *Paraffin dipped.* Cheese that has been coated with paraffin.

(3) *Rind.* A hard coating caused by the dehydration of the surface of the cheese.

(4) *Rinded.* A protection developed by the formation of a rind.

(5) *Rindless.* Cheese which has not formed a rind due to the impervious type of wrapper, covering, or container, enclosing the cheese.

(6) *Wrapped.* Cheese that has been covered with a transparent or opaque material (plastic film type or foil) next to the surface of the cheese.

(7) *Wrapper or covering.* A plastic film or foil material next to the surface of the cheese, used as an enclosure or covering of the cheese.

(b) *With respect to flavor:*

(1) *Very slight.* Detected only upon very critical examination.

(2) *Slight.* Detected only upon critical examination.

(3) *Definite.* Not intense but detectable.

(4) *Undesirable.* Those listed in excess of the intensity permitted or those characterizing flavors not listed.

(5) *Acid.* Sharp and puckery to the taste, characteristic of lactic acid.

(6) *Barny.* A flavor characteristic of the odor of a poorly ventilated cow barn.

(7) *Bitter.* Distasteful, similar to the taste of quinine.

(8) *Feed.* Feed flavors (such as alfalfa, sweetclover, silage, or similar feed) in milk which have carried through into the cheese.

(9) *Flat.* Insipid, practically devoid of any characteristic colby cheese flavor.

(10) *Fruity.* A fermented, sweet, fruit-like flavor resembling apples.

(11) *Lacking in flavor development.* No undesirable and very little, if any, Colby cheese flavor development.

(12) *Malty.* A distinctive, harsh flavor suggestive of malt.

(13) *Old milk.* Lacks freshness.

(14) *Onion.* A flavor recognized by the peculiar taste and aroma suggestive of its name. Present in milk or cheese when the cows have eaten onions, garlic, or leeks.

(15) *Rancid.* A flavor suggestive of rancidity or butyric acid; sometimes associated with bitterness.

(16) *Sour.* An acid, pungent flavor resembling vinegar.

(17) *Utensil.* A flavor that is suggestive of improper or inadequate washing and sterilization of milking machines, utensils, or factory equipment.

(18) *Weedy.* A flavor present in cheese when cows have eaten weedy hay or grazed on weed-infested pasture.

(19) *Whey-taint.* A slightly acid flavor characteristic of fermented whey.

(20) *Yeasty.* A flavor indicating yeast fermentation.

(c) With respect to body and texture:—(1) Very slight. Detected only upon very critical examination and present only to a minute degree.

(2) *Slight.* Barely identifiable and present only to a small degree.

(3) *Definite.* Readily identifiable and present to a substantial degree.

(4) *Coarse.* Feels rough, dry, and sandy.

(5) *Corky.* Hard, tough, over-firm cheese which does not readily break down when rubbed between the thumb and fingers.

(6) *Crumbly.* Tends to fall apart when rubbed between the thumb and fingers.

(7) *Curdy.* Smooth but firm; when worked between the fingers is rubbery and not waxy or broken down.

(8) *Firm.* Feels solid, not soft or weak.

(9) *Gassy.* Gas holes of various sizes and may be scattered.

(10) *Loosely knit.* Curd particles which are not well-matted and fused together.

(11) *Mealy.* Short body, does not mold well and looks and feels like corn meal when rubbed between the thumb and fingers.

(12) *Mechanical openings.* Irregular shaped openings that are caused by variations in make procedure and not caused by gas fermentation.

(13) *Pasty.* Is usually a weak body and when the cheese is rubbed between the thumb and fingers becomes sticky and smeary.

(14) *Pinny.* Numerous very small gas holes.

(15) *Reasonably firm.* Somewhat less firm but not to the extent of being weak.

(16) *Short.* No elasticity in the cheese plug and when rubbed between the thumb and fingers, the cheese tends toward mealiness.

(17) *Slitty.* Narrow, elongated slits generally associated with a cheese that is gassy or yeasty. These slits may sometimes be referred to as "fish-eyes."

(18) *Sweet holes.* Spherical gas holes which are glossy in appearance and usually about the size of BB shots. These gas holes are sometimes referred to as "shot holes."

(19) *Weak.* The cheese plug is soft but is not necessarily sticky like a pasty cheese and requires little pressure to crush.

(d) *With respect to color*—(1) *Very slight.* Detected only upon very critical examination and present only to a minute degree.

(2) *Slight.* Barely identifiable and present only to a small degree.

(3) *Acid-cut.* A bleached or faded color which sometimes varies throughout the cheese and appears most often around mechanical openings.

(4) *Bleached surface.* A faded color beginning at the surface and progressing inward.

(5) *Dull or faded.* A color condition lacking in luster or translucency.

(6) *Mottled.* Irregular shaped spots or blotches in which portions are light colored and others are of higher color. Also an unevenness of color due to combining the curd from two different vats, sometimes referred to as "mixed curd."

(7) *Salt spots.* Large light-colored spots or areas.

(8) *Seamy.* White thread-like lines that form when the curd is not properly matted or fused.

(9) *Unnatural.* Deep orange or reddish color.

(10) *Uncolored.* Absence of added coloring.

(11) *Wavy.* An unevenness of color which appears as layers or waves.

(e) *With respect to finish and appearance*—(1) *Very slight.* Detected only upon very critical examination and present to a minute degree.

(2) *Slight.* Barely identifiable and present to a small degree.

(3) *Definite.* Readily identifiable and present to a substantial degree.

(4) *Adequately and securely enveloped.* The wrapper or covering is properly sealed and entirely encloses the cheese with sufficient adherence to the surface of the cheese to protect it from contamination or dehydration.

(5) *Bandage.* Cheese cloth used to wrap cheese prior to dipping in paraffin.

(6) *Bandage evenly placed.* Placement of the bandage so that it completely envelops the cheese and overlaps evenly about one inch.

(7) *Bright surface.* Clean, glossy surface.

(8) *Burst or torn bandage.* A severance of the bandage usually occurring at the side seam; or when the bandage is otherwise snagged or broken.

(9) *Checked rind.* Numerous small cracks or breaks in the rind which sometimes follows the outline of curd particles.

(10) *Defective coating.* A brittle coating of paraffin that breaks and peels off in the form of scales or flakes; flat or raised blisters or bubbles under the surface of the paraffin; checked paraffin, including cracks, breaks or hairline checks in the paraffin or coating of the cheese.

(11) *Firm sound rind.* A rind possessing a firmness and thickness (not easily dented or damaged) consistent with the size of the cheese and which is dry, smooth, and closely knit, sufficient to protect the interior quality from external defects; free from checks, cracks, breaks, or soft spots.

(12) *High edge.* A rim or ridge on the side of the cheese.

(13) *Huffed.* A block of cheese which is swollen because of gas fermentation. The cheese becomes rounded or oval in shape instead of having flat surfaces.

(14) *Irregular press cloth.* Press cloth improperly placed in the hoop resulting in too much press cloth on one end and insufficient on the other causing overlapping; wrinkled and loose fitting.

(15) *Lopsided.* One side of the cheese is higher than the other side.

(16) *Mold under bandage and paraffin.* Mold spots or areas under the paraffin.

(17) *Mold under wrapper or covering.* Mold spots or areas under the wrapper or covering.

(18) *Rind rot.* Soft spots on the rind that have become discolored and are decayed or decomposed.

(19) *Rough Surface.* Lacks smoothness.

(20) *Smooth surface.* Not rough or uneven.

(21) *Soft spots.* Areas soft to the touch and which are usually faded and moist.

(22) *Soiled surface.* Milkstone, rust spots, or other discoloration on the surface of the cheese.

(23) *Sour rind.* A fermented rind condition, usually confined to the faces of the cheese.

(24) *Surface mold.* Mold on the exterior of the paraffin or wrapper.

(25) *Wax or paraffin that adheres firmly to the surface of the cheese.* A coating with no cracks, breaks, or loose areas.

(26) *Weak rind.* A thin rind which possesses little or no resistance to pressure.

Dated: June 23, 1993.

L.P. Massaro,

Acting Administrator.

[FR Doc. 93–15252 Filed 6–28–93; 8:45 am]

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7 CFR Part 58

[DA–92–18]

Grading and Inspection, General Specifications for Approved Plants and Standards for Grades of Dairy Products; United States Standards for Grades of Whipped Butter

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Proposed rule.

SUMMARY: This document proposes the promulgation of new United States Standards for Grades of Whipped Butter. This proposal would establish quality criteria for grade determination and optional microbiological and keeping-quality tests for whipped butter.

The Department has determined that the grading of butter sold in consumer-size packages bearing USDA official identification (grade-label) should be conducted when the product is in the final package. Presently, the quality of whipped butter is evaluated prior to the whipping process using the U.S. Standards for Grades of Butter. Accordingly, U.S. Standards for Grades of Whipped Butter are being proposed.

DATES: Comments should be filed by August 30, 1993.

ADDRESSES: Comments should be sent to: Director, Dairy Division, Agricultural Marketing Service, U.S. Department of Agriculture, room 2968–S, P.O. Box 96456, Washington, DC 20090–6456. They will be made available for public inspection at the Dairy Division in room 2750–S during regular business hours.

FOR FURTHER INFORMATION CONTACT: Diane D. Lewis, Dairy Products Marketing Specialist, Dairy Standardization Branch, USDA/AMS/ Dairy Division, room 2750–S, P.O. Box 96456, Washington, DC 20090–6456, (202) 720–7473.

SUPPLEMENTARY INFORMATION: This proposed rule has been reviewed under USDA guidelines implementing Executive Order 12291 and Departmental Regulation 1512–1 and has been classified as a "non-major' rule under the criteria contained therein.

This proposed rule has been reviewed under Executive Order 12778, Civil Justice Reform. This action is not intended to have retroactive effect. This rule does not preempt any State or local laws, regulations, or policies, unless they present an irreconcilable conflict with this rule. There are no administrative procedures which must be exhausted prior to any judicial challenge to the provisions of this rule.

The proposed rule also has been reviewed in accordance with the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.* The Administrator, Agricultural Marketing Service, has determined that the proposed rule, if promulgated, would not have a significant economic impact on a substantial number of small entities because use of the standards is voluntary and this action will not increase costs to those utilizing the standards.

In 1991, the Department evaluated the procedures used to assign U.S. grade to butter in consumer size packages. The Department concluded that the grading of the product should be conducted when the butter is in the final package because the evaluation of whipped butter at that time is more accurate.

The current practice of evaluating grade-label whipped butter is to either grade the butter in the bulk form prior to whipping or obtain a sample of fresh butter taken during the manufacturing process and evaluate it. Accordingly, the promulgation of U.S. Standards for Grades of Whipped Butter is being proposed. These proposed standards have received general support from many of the manufacturers of whipped butter who utilize the USDA grade-label program, as well as from the American Butter Institute. In addition, these standards have been field tested by the Dairy Grading Branch and were found to be satisfactory.

In order to establish U.S. Standards for Grades of Whipped Butter, USDA is proposing the following:

1. Provide quality specifications for whipped butter at two U.S. Grade levels: U.S. Grade AA and U.S. Grade A

Whipped butter is produced by uniformly incorporating air or inert gas into butter to improve its spreadability characteristics. The percent overrun based on buyer or consumer preference is usually between 50 and 100 percent. Market analysis conducted during the development of this proposal supports the opinion that consumers prefer the higher quality products. Therefore, standards are being proposed that establish quality designations at two levels: U.S. Grade AA and U.S. Grade A.

2. Define flavor characteristics

Production and processing practices influence flavor characteristics in whipped butter. To manufacture whipped butter with a highly pleasing flavor, the raw milk and cream must be free of objectionable flavors. This proposal would define acceptable flavor characteristics to assist the graders in identifying and classifying the flavor.

3. Define body, color, and salt characteristics and establish disratings

Just as production and processing practices influence the flavor of whipped butter, they also influence body, color, and salt characteristics. This proposal would describe distinguishing body, color, and salt characteristics and establish disratings which are used to determine U.S. grade.

4. Illustrate how flavor, body, color, and salt characteristics influence grade determination

These standards provide step-by-step instructions in determining the final grade of whipped butter. The U.S. grade of whipped butter is determined on the basis of classifying first the flavor characteristics. Then body, color, and salt characteristics are noted and disratings established. When total disratings exceed the permitted amount identified in the standards, the final U.S. grade is lowered.

5. Establish optional microbiological and keeping-quality tests (not mandatory for grade designation)

Since 1975, the General Specifications for Dairy Plants Approved for USDA Inspection and Grading Service have required microbiological and keeping-quality testing of whipped butter bearing USDA official identification. The market analysis conducted during the development of this proposal revealed that the industry is utilizing tighter microbiological specifications for proteolytic and yeast and mold counts than those listed in the "General Specifications". To be more aligned with current industry standards, this proposal would tighten these microbiological requirements. This proposal also would incorporate these same tests as optional tests (not mandatory for grade designation) in the U.S. Standards for Grades of Whipped Butter.

USDA grade standards are voluntary standards that are developed pursuant to the Agricultural Marketing Act of 1946 (7 U.S.C. 1621 *et seq.*) to facilitate the marketing process. Manufacturers of dairy products are free to choose whether or not to use these grade standards. USDA grade standards for dairy products have been developed to identify the degree of quality in the various products. Quality in general refers to usefulness, desirability, and value of the product—its marketability as a commodity. When whipped butter is officially graded, the USDA regulations and standards governing the grading of manufactured or processed dairy products are used. These regulations also require a charge for the grading service provided by USDA. The Agency believes this proposal would accurately identify quality characteristics in whipped butter.

Corollary changes must be made in the General Specifications for Dairy Plants Approved for USDA Inspection and Grading Service, to conform the definition and grade designations of whipped butter set forth therein with the proposed United States Standards for Grades of Whipped Butter.

List of Subjects in 7 CFR Part 58

Dairy products, Food grades and standards, Food labeling, Reporting and recordkeeping requirements.

For the reasons set forth in the preamble, it is proposed that 7 CFR part 58 be amended as follows:

PART 58—[AMENDED]

1. The authority citation for 7 CFR part 58 continues to read as follows:

Authority: Agricultural Marketing Act of 1946, Secs. 202–208, 60 Stat. 1087, as amended; 7 U.S.C. 1621–1627, unless otherwise noted.

2. In subpart B, § 58.305(f) is revised as follows:

§ 58.305 Meaning of words.

* * * * *

(f) *Whipped Butter.* The food product is made by the uniform incorporation of air or inert gas into butter.

§ 58.323 [Removed and reserved].

3. In subpart B, § 58.323 is removed and reserved.

4. In subpart B, § 58.346 is revised to read as follows:

§ 58.346 Whipped butter.

(a) The quality requirements for whipped butter shall be in accordance with the U.S. Standards for Grades of Whipped Butter for U.S. Grade AA and U.S. Grade A, respectively.

(b) Whipped butter shall also be subject to the following specifications when sampled and tested in accordance with §§ 58.336 and 58.337, respectively:

(1) Proteolytic count, not more than 50 per gram; yeast and mold count, not more than 10 per gram; coliform count, not more than 10 per gram; and keeping-quality test, satisfactory after 7 days at 70 °F.

(2) Optional except when required or requested: Copper content, not more than 0.3 ppm; iron content, not more than 1.0 ppm; enterococci, not more than 10 per gram.

5. Subpart G—United States Standards for Grades of Whipped Butter is added to read as follows:

Subpart G—United States Standards for Grades of Whipped Butter

Definitions

Sec.

58.2425 Whipped butter.
58.2426 Butter.
58.2427 Cream.

U.S. Grades

58.2428 Nomenclature of U.S. grades.
58.2429 Basis for determination of U.S. grade.
58.2430 Specifications for U.S. grades.
58.2431 Relationship of U.S. grade of whipped butter to the flavor classifications as affected by disratings in body, color, and salt characteristics.
58.2432 Optional tests.
58.2433 U.S. grade not assignable.
58.2434 Test methods.

Explanation of Terms

58.2435 Explanation of terms.

Subpart G—United States Standards for Grades of Whipped Butter [1]

Definitions

§ 58.2425 Whipped butter.

Whipped butter is the food product made by the uniform incorporation of air or inert gas into butter.

§ 58.2426 Butter.

The food product usually known as butter, and which is made exclusively from milk or cream, or both, with or without common salt, with or without additional coloring matter, and containing not less than 80 percent by weight of milkfat, all tolerances having been allowed for.

§ 58.2427 Cream.

The term *cream* when used in this subpart G means cream separated from milk produced by healthy cows. The cream shall be pasteurized at a temperature of not less than 165 °F and held continuously in a vat at such temperature for not less than 30 minutes; or pasteurized at a temperature of not less than 185 °F for not less than 15 seconds; or pasteurized by other approved methods giving equivalent results.

U.S. Grades

§ 58.2428 Nomenclature of U.S. grades.

The nomenclature of U.S. grades is as follows:

(a) U.S. Grade AA.

(b) U.S. Grade A.

§ 58.2429 Basis for determination of U.S. grade.

The U.S. grade of whipped butter is determined on the basis of classifying first the flavor characteristics and then the characteristics in body, color, and salt of a representative sample. Flavor is the basic quality factor in grading whipped butter and is determined organoleptically by smell and taste. The flavor characteristic and intensity is identified and rated according to the applicable classification contained in table I in § 58.2430. When more than one flavor characteristic is discernible in a sample of whipped butter, the flavor classification of the sample shall be established on the basis of the flavor that carries the lowest rating. Body, color, and salt characteristics are then noted and disratings are made in accordance with the established classification in table II in § 58.2430. The final U.S. grade for the sample is then established in accordance with the flavor classification, subject to permitted disratings for body, color, and salt as outlined in § 58.2431.

§ 58.2430 Specifications for U.S. grades.

The specifications for the U.S. grades of whipped butter are as follows:

(a) *U.S. Grade AA.* U.S. Grade AA whipped butter conforms to the following: Shall possess a fine and highly pleasing butter flavor. Whipped butter may also have a lactic culture flavor. May possess a slight feed, or a definite cooked flavor. The permitted disratings in body, color, and salt characteristics are limited to one-half (½). For detailed specifications and classification of flavor characteristics, see Table I of this section. For body, color, and salt disratings, see Table II of this section.

(b) *U.S. Grade A.* U.S. Grade A whipped butter conforms to the following: Shall possess a pleasing and desirable butter flavor. Whipped butter may also have a lactic culture flavor. May possess to a slight degree the following flavors: acid, aged, bitter, coarse, flat, smothered, and storage. May possess a definite feed flavor. The permitted disratings in body, color, and salt characteristics are limited to one-half (½). For detailed specifications and classification of flavor characteristics, see Table I of this section. For body, color, and salt disratings, see Table II of this section.

(c) *General.* Whipped butter of all U.S. grades shall be free from foreign materials and visible mold. When total disratings exceed the permitted amount, the final U.S. grade shall be lowered one grade level for each additional one-half (½) disrating.

TABLE I.—CLASSIFICATION OF FLAVOR WITH CORRESPONDING U.S. GRADE

Flavor Characteristics [1]	U.S. grade designation	
	AA	A
Acid	[2]—	[3]S
Aged	[2]—	[3]S
Bitter	[2]—	[3]S
Coarse	[2]—	[3]S
Cooked	[4]D	.....
Feed	[3]S	[4]D
Flat	[2]—	[3]S
Smothered	[2]—	[3]S
Storage	[2]—	[3]S

[1] When more than one flavor is discernible in a sample of whipped butter, the flavor classification of the sample shall be established on the basis of the flavor that carries the lowest rating.

[2] (—) = Not permitted

[3] S = Slight

[4] D = Definite

TABLE II.—CHARACTERISTICS AND DISRATINGS IN BODY, COLOR AND SALT

Characteristics	Disratings	
	Slight	Definite
Body:		
Free Moisture	½	1
Mealy or grainy	½	1
Color:		
Color specks	1	1½
Mottled	½	1
Wavy	½	1

[1] Compliance with these standards does not excuse failure to comply with provisions of the Federal Food, Drug and Cosmetic Act.

TABLE II.—CHARACTERISTICS AND DISRATINGS IN BODY, COLOR AND SALT—Continued

Characteristics	Disratings	
	Slight	Definite
Salt:		
Gritty	1	1½
Sharp	1	1½

§ 58.2431 Relationship of U.S. grade of whipped butter to the flavor classifications as affected by disratings in body, color, and salt characteristics.

When the disratings for body, color, and salt exceed the permitted amount of (½) for any flavor classification, the final U.S. grade shall be lowered accordingly:

TABLE III

Flavor classification	Total disratings	U.S. grade
AA	½	AA
AA	1	A
AA	1½	1(*)
A	½	A
A	1	1(*)

1(*) = No U.S. grade assigned.

§ 58.2432 Optional tests.

(a) There are optional tests (not mandatory for grade designation) that may be made on whipped butter that can be requested by the buyer or seller. If requested, the product must comply with the microbiological and keeping-quality specifications as follows:

Proteolytic count—not more than 50 per gram
Yeast and mold count—not more than 10 per gram
Coliform count—not more than 10 per gram
Keeping-quality test—satisfactory after 7 days at 70 °F.

(b) All required tests, and optional tests when specified, shall be performed in accordance with the test methods identified in § 58.2434.

§ 58.2433 U.S. grade not assignable.

Whipped butter shall not be assigned a U.S. grade for one or more of the following reasons:

(a) The butter fails to meet or exceed the requirements for U.S. Grade A.

(b) The butter, when tested, does not comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or the minimum milkfat requirements of 80.0 percent.

(c) The butter is produced in a plant that is rated ineligible for USDA grading service or is not USDA-approved.

§ 58.2434 Test methods.

Testing methods contained in the latest edition of the "Standard Methods for the Examination of Dairy Products" or the "Official Methods of Analysis of the Association of Official Analytical Chemists" are used to determine bacterial estimates and milkfat content.

Explanation of terms

§ 58.2435 Explanation of terms.

(a) With respect to flavor intensity and characteristics:

(1) *Slight.* Detected only upon critical examination.

(2) *Definite.* Not intense but detectable.

(3) *Acid.* Lacks a delicate flavor or aroma and is associated with an acid condition but there is no indication of rancidity.

(4) *Aged.* Characterized by lack of freshness.

(5) *Bitter.* Astringent, similar to taste of quinine and produces a puckery sensation.

(6) *Coarse.* Lacks a fine, delicate, smooth flavor.

(7) *Cooked.* Smooth, nutty-like characteristic resembling a custard flavor.

(8) *Feed.* Aromatic flavor characteristic of the feed eaten by cows.

(9) *Flat.* Lacks natural butter flavor.

(10) *Smothered.* Suggestive of improperly cooked cream.

(11) *Storage.* Characterized by a lack of freshness and more intensified than "aged" flavor.

(b) With respect to body:

(1) *Free Moisture.* "Free moisture" is present when beads of moisture are visible on the surface of the sample. The intensity is described as "slight" when the droplets or beads of moisture are barely visible, few in number, and about the size of a pinhead; and "definite" when the moisture droplets are clearly visible, more numerous, and are somewhat larger in size.

(2) *Mealy or grainy.* A "mealy" or "grainy" condition imparts a granular consistency when the whipped butter is melted on the tongue. The intensity is described as "slight" when the mealiness or graininess is barely detectable; and "definite" when the mealiness or graininess is clearly detectable.

(c) With respect to color:

(1) *Mottled.* "Mottled" appears as a dappled condition with spots of lighter and deeper shades of yellow. The intensity is described as "slight" when the small spots of different shades of yellow, irregular in shape, are barely discernible on the sample of whipped butter; and "definite" when the mottles are more clearly discernible.

(2) *Color specks.* "Specks" usually appear in whipped butter as small white or yellow spots. The intensity is described as "slight" when the spots are few in number; and "definite" when they are noticeable in larger numbers.

(3) *Wavy.* "Wavy" color in whipped butter is an unevenness in the color that appears as waves of different shades of yellow. The intensity is described as "slight" when the waves are barely discernible; and "definite" when they are readily noticeable.

(d) With respect to salt:

(1) *Gritty.* A "gritty" salt condition imparts a sand-like feeling on the tongue due to grains of undissolved salt. The intensity is described as "slight" when only a few grains of undissolved salt are detected; and "definite" when the condition is more readily noticeable.

(2) *Sharp.* "Sharp" salt is characterized by taste sensations suggestive of salt. The intensity is described as "slight" when the salt taste predominates in flavor; and "definite" when the taste distinctly predominates in flavor.

Dated: June 23, 1993.

L.P. Massaro,

Acting Administrator.

[FR Doc. 93–15251 Filed 6–29–93; 8:45 am]

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7 CFR Part 920

[Docket No. FV93–920–1PR]

Kiwifruit Grown in California; Revision of Pack and Container Regulations

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Proposed rule.

SUMMARY: This proposed rule would revise pack and container requirements for California kiwifruit. The first change would add a new size category to the allowable sizes for packs of kiwifruit. The second change would standardize packaging for certain volume-fill containers packed by weight at 23 pounds. The third change would require all containers of kiwifruit to be marked with the identity of the product; the name, address, and zip code of the shipper; and the quantity of the product within the container. These changes were unanimously recommended by the Kiwifruit Administrative Committee (committee) at its annual meeting.

DATES: Comments must be received by July 15, 1993.

ADDRESSES: Written comments concerning this proposal should be submitted in triplicate to the Docket Clerk, F&V Division, AMS, USDA, PO

Box 96456, room 2523–S, Washington, DC 20090–6456, or by facsimile at (202) 720–5698. All comments submitted will be made available for public inspection in the above office during regular business hours. Comments should reference the docket number and the date and page number of this issue of the Federal Register.

FOR FURTHER INFORMATION CONTACT: Mark A. Hessel, Marketing Order Administration Branch, Fruit and Vegetable Division, AMS, USDA, PO Box 96456, room 2526–S, Washington, DC 20090–6456, telephone (202) 720–5127; or Rose Aguayo, California Marketing Field Office, Marketing Order Administration Branch, Fruit and Vegetable Division, AMS, USDA, 2202 Monterey Street, Suite 102B, Fresno, CA 93721; telephone (209) 487–5901.

SUPPLEMENTARY INFORMATION: This rule is proposed under Marketing Agreement and Order No. 920 (7 CFR part 920), both as amended, regulating the handling of kiwifruit grown in California. The marketing agreement and order are authorized by the Agricultural Marketing Agreement Act of 1937, as amended (7 U.S.C. 601–674), hereinafter referred to as the Act.

This proposed rule has been reviewed by the Department of Agriculture (Department) in accordance with Departmental Regulation 1512–1 and the criteria contained in Executive Order 12291 and has been determined to be a "non-major" rule.

This proposed rule has been reviewed under Executive Order 12778, Civil Justice Reform. This proposed rule would not preempt any state or local laws, regulations, or policies, unless they present an irreconcilable conflict with this rule.

The Act provides that administrative proceedings must be exhausted before parties may file suit in court. Under section 608c(15)(A) of the Act, any handler subject to an order may file with the Secretary a petition stating that the order, any provision of the order, or any obligation imposed in connection with the order is not in accordance with law and requesting a modification of the order or to be exempted therefrom. Such handler is afforded the opportunity for a hearing on the petition. After the hearing the Secretary would rule on the petition. The Act provides that the district court of the United States in any district in which the handler is an inhabitant, or has his or her principle place of business, has jurisdiction in equity to review the Secretary's ruling on the petition, provided a bill in equity is filed not later than 20 days after the date of the entry of the ruling.

Pursuant to requirements set forth in the Regulatory Flexibility Act (RFA), the Administrator of the Agricultural Marketing Service (AMS) has considered the economic impact of this rule on small entities.

The purpose of the RFA is to fit regulatory actions to the scale of business subject to such actions in order that small businesses will not be unduly or disproportionately burdened. Marketing orders issued pursuant to the Act, and rules issued thereunder, are unique in that they are brought about through group action of essentially small entities acting on their own behalf. Thus, both statutes have small entity orientation and compatibility.

There are approximately 65 handlers of California kiwifruit subject to regulation under the marketing order and approximately 600 kiwifruit producers in the production area. The Small Business Administration (13 CFR 121.601) has defined small agricultural producers as those having annual receipts of less than $500,000, and small agricultural service firms are defined as those whose annual receipts are less than $3,500,000. The majority of handlers and producers of California kiwifruit may be classified as small entities.

Under the terms of the marketing order, fresh market shipments of California kiwifruit are required to be inspected and are subject to grade, size, maturity, pack, and container requirements. Current requirements include specifications that such shipments be at least Size 49, grade at least KAC No. 1 quality, and contain a minimum of 6.5 percent soluble solids.

The production of California kiwifruit for the 1992 season was approximately 12.7 million tray equivalents, compared to the 1991 season production of 7.2 million tray equivalents. This represents a 76 percent increase in California kiwifruit production from 1991 to 1992.

The committee, the agency responsible for local administration of the marketing order, met on February 4, 1993, and unanimously recommended the following changes:

Additional Size Designation

Section 920.302(a)(4)(ii) of the rules and regulations includes a table that specifies numerical size designations to be used in packing certain containers of kiwifruit. These size designations are defined by numerical counts, which establish the maximum number of fruit per 8-pound sample for each of the established sizes. The size designation table only applies to kiwifruit packed in bags, volume-fill, or bulk containers, and does not apply to kiwifruit packed in containers with cell compartments, cardboard fillers, or molded trays. The size designation table defines nine different sizes, beginning with Size 25 (the largest size) and ending with Size 49 (the smallest size). For example, Size 25 means that a maximum number of 27 pieces of kiwifruit may be contained in an 8-pound sample when packed in bags, volume-fill, or bulk containers. The committee recommended adding a Size 21 category which authorizes a maximum number of 22 pieces of fruit in an 8-pound sample.

Size 21 would be the largest size designation for kiwifruit packed in bags, volume-fill, or bulk containers. As a result of improved cultural practices, kiwifruit larger than Size 25 have become more prevalent. During the 1990–91 shipping season, 301 tray equivalents of California kiwifruit shipments were classified in sizes larger than a Size 25 equivalent, but during the 1992–93 shipping season, 6,022 tray equivalents of California kiwifruit shipments were classified as larger than a Size 25 equivalent. This trend is expected to continue.

Currently, for bags, volume-fill, and bulk containers containing kiwifruit the equivalent of Size 21 or larger, the size is marked as "Size 25." This puts handlers shipping kiwifruit larger than Size 25 at a disadvantage, because handlers may receive higher prices for larger sizes of kiwifruit and could benefit by classifying it as a larger size. A handler does have the option of using containers with molded trays and marking them "21 count," but this container is more expensive than using either bags, volume-fill, or bulk containers. For this reason, more kiwifruit is being shipped in bags, volume-fill, and bulk containers. In 1992, 41.8 percent of California kiwifruit was shipped in either bags, volume-fill, or bulk containers as compared to 18 percent in 1987. There is a need for a Size 21 designation so that kiwifruit marked "Size 21" may be shipped in bags, volume-fill, or bulk containers.

In addition, not having a Size 21 designation makes it difficult for handlers to stay within the size tolerances for the Size 25 designation. Current pack requirements specify that kiwifruit designated as Size 25 must be packed within a ½ inch size tolerance. Since there is no Size 21 designation, kiwifruit of Size 21 or larger is often "blended" into the Size 25 designation. Blending occurs because the four largest size designations have the same size tolerance specified under the order (½ inch) and kiwifruit within that tolerance may be packed in any of those sizes.

Blending requires handlers to take special care to stay within the size tolerance and reduces the uniformity of the pack size. Establishing a Size 21 designation could reduce the cost of packing larger-sized fruit by making it easier for handlers to stay within the established size tolerances.

For the above reasons, this change would have a positive impact throughout the industry by allowing Size 21 fruit to be uniformly packed in bags, volume-fill, or bulk containers. This change would encourage a more uniform pack of larger-sized fruit by decreasing the amount of blending and increasing grower returns since larger fruit often sells at a higher price.

Standardized Packaging

The committee also recommended standardizing the weight of certain volume-fill containers marked by weight at 23 pounds. Paragraph (a)(3) of § 920.52 specifies that the Secretary may fix the weight of containers used in the handling of kiwifruit.

Handlers may ship volume-fill containers of kiwifruit marked by count or by weight depending upon the preference of the receiver. Volume-fill containers marked by count would not be affected by this particular change. Also, containers of less than 10 pounds or more than 35 pounds would not be affected by this weight standard. Thus, the industry would continue to have the flexibility to utilize containers of different weights for a variety of consumer needs.

Currently, there is no standard weight established for volume-fill containers marked by weight. Handlers are shipping volume-fill containers marked by weight primarily of either 21 or 23 pounds. Both containers are sold at essentially the same price. Retailers often expect to receive 23-pound containers and actually receive 21-pound containers. The inconsistency of container sizes has caused confusion and complaints in the marketplace. Standardizing the weight of volume-fill containers marked by weight would standardize marketing practices for the kiwifruit industry.

The committee considered setting the minimum weight for volume-fill containers at 21 pounds rather than at 23 pounds. Those in favor of a 21-pound container believed that such a container packed better. However, some committee members commented that setting a 21-pound standard may result in some loosely packed containers. This in turn could present quality problems caused by a greater amount of jostling during packing and transportation. Proponents of setting a 23-pound standard also pointed out that nearly 90 percent of the volume-fill containers of kiwifruit shipped by the California kiwifruit industry in 1992 were 23-pound containers.

Currently, the committee is aware of three handlers who pack 21-pound volume-fill containers. Most containers used to pack 21 pounds are large enough to contain 23 pounds of kiwifruit. Also, such containers could be used for volume-fill containers marked by count or as 3-layer cartons. This change would impose some minimal costs on some handlers who would have to convert 21-pound volume-fill containers into other types of containers. However, the overall benefits to the California kiwifruit industry by standardizing volume-fill containers at 23 pounds would more than offset the costs imposed on handlers.

An additional packing requirement would be added for containers in which quantity is specified by count. The count would be required to be equal to three times the size designation. This is already an existing container marking practice of the kiwifruit industry. For example, if the kiwifruit is Size 42, then, on average a total of 126 pieces of fruit would be in the container. The carton would be labeled "Size 42, 126 count." Standardizing the container marking requirements of volume-fill containers marked by count would clarify marketing practices for the kiwifruit industry. Also, the United States Standards for Grades of Kiwifruit in § 51.2338(c)(2) specifies that the count shall not vary more than two from the marked count.

Container Marking Requirements

The committee also recommended additional container marking requirements. Section 920.52(a)(3) specifies that the Secretary may set container marking requirements on shipments of kiwifruit. In past years, some container marking requirements on shipments of California kiwifruit were required under the California Agricultural Code. These requirements specified that all containers of kiwifruit be marked with the identity of the product, the name and address of the shipper, and a description of the quantity of kiwifruit contained inside. These three requirements are referred to as identity, responsibility, and quantity (IRQ). The California Department of Food and Agriculture was responsible for the enforcement of these IRQ requirements. Last year, in response to severe budget restraints, the State put this program on a user fee basis. The California kiwifruit industry decided to drop out of the State program, and establish needed container marking requirements under the Federal marketing order.

Specifically, this proposed action would establish under the Federal marketing order's rules and regulations, with minor modifications, the container marking requirements that were formerly required under the California Agricultural Code. The order now requires under § 920.302 that closed containers with cell compartments, cardboard fillers, or molded trays be marked with the count, and that bags, volume-fill, and bulk containers be marked with the size designation, as specified by the size designation table. Also, all containers, except those containers supervised by the Federal or Federal-State Inspection Service being loaded directly for export, need to be marked with a lot stamp number.

The proposed action would establish standard container marking requirements similar to IRQ requirements. First, all kiwifruit containers would be labeled with the term "kiwifruit" and the varietal name, if the varietal name is other than Hayward. The container would be labeled as "unknown variety," if the variety of kiwifruit is unknown.

Second, containers would also need to be marked with the name and the address of the handler. The address would need to include the city, state, and zip code.

Third, information regarding the quantity of kiwifruit would be required to be marked on each of the following types of containers. (1) The count would need to be marked on all molded trays and 3-layer cartons. (2) The net weight and size designation would need to be marked on volume-fill containers packed by weight. Also, the count and size designation would need to be marked on volume-fill containers packed by count. (3) The net weight and size designation or the net weight, count, and size designation would need to be marked on bulk bins. (4) Master containers, which hold more than one individual package, would need to be marked to properly express the quantity of the contents. Also, the size designation would need to be marked. For example, a master container packed with 20 packages each containing 1 pound of Size 49 kiwifruit would need to be labeled "20–1 lb. packages, Size 49." (5) The net weight or count would need to be marked on all individual consumer packages. If the count is used, then it would need to be accompanied by the size designation.

When the quantity is expressed in terms of weight, size designation, or

count, the marking would need to be accompanied by the words "net weight," "size," or "count" as applicable. For example, a size designation could be marked on a container as "Size 49" or as "49 size," but not as "49."

The lot stamp number could be plainly marked anywhere on the outside of the container. Lot stamp numbers would not be required for consumer packages or those containers supervised by the Federal or Federal-State Inspection Service being loaded directly for export. All other container marking information would need to be plainly and conspicuously marked on at least one outside principal display panel. The term "principal display panel" means that part of the package or container most likely to be displayed, presented, shown, or examined under normal or customary conditions of display and purchase.

These proposed requirements are necessary because a number of major export markets, including Canada, require these markings. The California kiwifruit industry may have containers of kiwifruit rejected at points of destination unless such containers are properly marked. Currently, containers may pass inspection at the shipping point yet be detained at the point of destination because of improper markings. The mandatory marking of all containers with information regarding the identity, responsibility, and quantity would help prevent problems for shippers and receivers of kiwifruit.

The committee considered not recommending any new container markings, but concluded that invariably some shippers would not follow customary container marking practices. This could damage the reputation of the California kiwifruit industry if improperly marked kiwifruit containers were rejected at the receiving point. Also, mandatory container marking requirements would standardize labeling for California kiwifruit containers. Inconsistent container marking practices could result in confusion in the market place and ultimately lower sales and grower revenue.

In addition, the committee considered remaining under the State program and paying an additional assessment of $.001 per container. Not only is this alternative more expensive than adding the IRQ regulations to the Federal order, but it would impose an additional burden by requiring Shipping Point Inspection (SPI) personnel to contact State Standardization personnel each time a mislabeled container was detected. Under this proposal, the SPI would inspect and certify compliance with IRQ requirements, in addition to current grade, size, maturity, pack, and container marking requirements under the order.

For purposes of clarification, portions of paragraph (a)(4) and paragraph (a)(5) of § 920.302 regarding container marking requirements would be incorporated, in modified form, into a new § 920.303 which would deal specifically with container marking requirements. It is the intent of this action to add new container marking requirements to the rules and regulations and not to replace existing container marking requirements.

Based on the above, the Administrator of the AMS has determined that this action would not have a significant economic impact on a substantial number of small entities.

Interested persons are invited to submit their views and comments on this proposal. A 15-day comment period is considered appropriate so that the industry will have sufficent time to conform to the requirements of this proposed action before the beginning of the 1993–94 shipping season in mid-September. All written comments timely received will be considered before a final determination is made on this matter.

List of Subjects in 7 CFR Part 920

Kiwifruit, Marketing agreements.

For the reasons set forth in the preamble, it is proposed that 7 CFR part 920 be amended as follows:

PART 920—KIWIFRUIT GROWN IN CALIFORNIA

1. The authority citation for 7 CFR part 920 continues to read as follows:

Authority: Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674.

2. In § 920.302, paragraph (a)(5) is removed, and paragraph (a)(4) is revised to read as follows:

§ 920.302 Grade, size, and pack regulations.

* * *

(4) Pack requirements. (i) Kiwifruit packed in containers with cell compartments, cardboard fillers or molded trays shall be of proper size for the cells, fillers or molds in which they are packed. Such fruit shall be fairly uniform in size. Not more than 10 percent, by count, of the containers in any lot and not more than 5 percent, by count, of kiwifruit in any container may fail to meet the requirements of this paragraph. The fruit packed in such containers shall meet the following minimum weight requirements at the time of initial inspection:

Count designation of fruit	Minimum net weight of fruit (lbs)
34 or larger	7.5
35 to 37	7.25
38 to 40	6.875
41 to 43	6.75
44 and smaller	6.5

The average weight of all sample units in a lot must meet the specified minimum net weight, but no sample unit may be more than 4 ounces less than such weight.

(ii) Kiwifruit packed in bags, volume fill or bulk containers may not vary more than ½-inch (12.7 mm) in diameter if Size 30 or larger; not more than ⅜-inch (9.5 mm) in diameter if Size 33, 36, 39, or 42; and not more than ¼-inch in diameter (6.4 mm) if Size 45/46 or smaller. Not more than 10 percent, by count, of the containers in any lot and not more than 5 percent, by count, of kiwifruit in any container may fail to meet the requirements of this paragraph. The following table specifies the numerical size designation to be used in packing such containers as shown in Column 1, and the maximum number of fruit per 8-pound sample as shown in Column 2.

Column 1, numerical count size designation	Column 2, Maximum number of fruit per 8-pound sample
21	22
25	27
27/28	30
30	32
33	35
36	40
39	45
42	50
45/46	57
49	60

The average weight of all sample units in a lot must weigh at least 8 pounds, but no sample unit may be more than 4 ounces less than 8 pounds.

(iii) For shipments in volume-fill containers in which the quantity is specified by count, the count must equal three times the size designation in accordance with tolerances specified in the U.S. Standards for Grades of Kiwifruit (7 CFR 51.2328(c)(2)).

(iv) All volume-fill containers of kiwifruit designated by weight shall hold 23 pounds net weight of kiwifruit unless such containers hold less than 10

pounds or more than 35 pounds net weight of kiwifruit.

* * * * *

3. A new § 920.303 is added to read as follows:

§ 920.303 Container marking regulations.

No handler shall ship any kiwifruit except in accordance with the following terms and conditions:

(a) Each package or container of kiwifruit shall bear on at least one outside principal display panel in plain sight and in plain letters, the word "kiwifruit," the name of the variety (if other than the Hayward variety), if known or, when the variety is not known, the words "unknown variety."

(b) Each package or container of kiwifruit shall bear on one outside principal display panel in plain sight and in plain letters the name and address (including the city, state, and zip code) of the shipper.

(c) Each package or container of kiwifruit shall bear on one outside principal display panel in plain sight and in plain letters the following information regarding the quantity of kiwifruit packed within the container:

(1) The quantity shall be indicated in terms of count for kiwifruit packed in cell compartments, cardboard fillers, or molded trays, and the contents shall conform to the count.

(2) The quantity shall be indicated in terms of the size designation and either the net weight for volume-fill containers packed by weight or the count for volume-fill containers packed by count.

(3) For bulk bins, the quantity shall be indicated in terms of the size designation and net weight; or in terms of the size designation, net weight, and count.

(4) Master containers, which hold more than one individual package, must be properly marked with the quantity of the contents. The size designation must also be indicated.

(5) The quantity shall be indicated in terms of either net weight or count (or both) for individual consumer packages. If count is used, it must be accompanied by the size designation.

(6) Designations of size, count, and net weight on each container shall be accompanied by the words "size," "count," or "net weight" as applicable.

(d) Containers of kiwifruit shall be plainly marked with the lot stamp number corresponding to the lot inspection conducted by an authorized inspector; except for individual consumer packages and containers that are being directly loaded into a vehicle for export shipment under the supervision of the Federal or Federal-State Inspection Service.

(e) As used in this section, the term "principal display panel" means that part of the package or container most likely to be displayed, presented, shown or examined under normal or customary conditions of display and purchase.

Dated: June 23, 1993.

Robert C. Keeney,

Deputy Director, Fruit and Vegetable Division.

[FR Doc. 93–15272 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–02–P

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7 CFR Part 958

[Docket No. FV–92–093PR]

Onions Grown in Certain Designated Counties in Idaho and Malheur County, Oregon—Amendment to Handling Regulation

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Proposed rule.

SUMMARY: This proposed rule revises a previously issued proposed rule and would require shipments of pearl onions to be inspected and certified as being within the maximum permissible size of 1¾ inches in diameter and require handlers to pay assessments on such onions. Under the current regulation, pearl onions are exempt from inspection and assessments as well as minimum grade and size requirements, but cannot be larger than 1¾ inches in diameter. To eliminate redundancy in the regulations, this proposal also would remove one paragraph regarding imported onions, which is the same as requirements in effect under 7 CFR 980.117 for imported onions.

DATES: Comments must be received by July 30, 1993.

ADDRESSES: Interested persons are invited to submit written comments concerning this proposal to: Docket Clerk, Fruit and Vegetable Division, AMS, USDA, PO Box 96456, Room 2523–S, Washington, DC 20090–6456, or FAX (202) 720–5698. Three copies of all written material shall be submitted. Comments timely received will be made available for public inspection at the Office of the Docket Clerk during regular business hours. All comments should reference the docket number and the date and page number of this issue of the **Federal Register**.

FOR FURTHER INFORMATION CONTACT: Gary Olson, Northwest Marketing Field Office, 1220 SW Third Avenue, room 369, Portland, Oregon, 97204, telephone (503) 326–2724, or Robert F. Matthews, Marketing Order Administration Branch, Fruit and Vegetable Division, AMS, USDA, PO Box 96456, room 2523–S, Washington, DC 20090–6456, telephone (202) 690–0464.

SUPPLEMENTARY INFORMATION: This rule is proposed under Marketing Agreement No. 130 and Order No. 958 (7 CFR Part 958) (order), regulating the handling of onions grown in Idaho and Malheur County, Oregon. The marketing agreement and order are authorized by the Agricultural Marketing Agreement Act of 1937, as amended, (7 U.S.C. 601–674), hereinafter referred to as the Act.

This rule has been reviewed by the U.S. Department of Agriculture (Department) in accordance with Departmental Regulation 1512–1 and the criteria contained in Executive Order 12291 and has been determined to be a non-major rule.

This rule has been reviewed under Executive Order 12778, Civil Justice Reform. This action is not intended to have retroactive effect. This proposed rule will not preempt any state or local laws, regulations, or policies, unless they present an irreconcilable conflict with this rule.

The Act provides that administrative proceedings must be exhausted before parties may file suit in court. Under section 608c(15)(A) of the Act, any handler subject to an order may file with the Secretary a petition stating that the order, any provision of the order, or any obligation imposed in connection with the order is not in accordance with law and requesting a modification of the order or to be exempted therefrom. A handler is afforded the opportunity for a hearing on the petition. After the hearing, the Secretary would rule on the petition. The Act provides that the district court of the United States in any district in which the handler is an inhabitant, or has a principal place of business, has jurisdiction in equity to review the Secretary's ruling on the petition, provided a bill in equity is filed not later than 20 days after the date of the entry of the ruling.

Pursuant to the requirements set forth in the Regulatory Flexibility Act (RFA), the Administrator of the Agricultural Marketing Service (AMS) has considered the economic impact of this proposal on small entities.

The purpose of the RFA is to fit regulatory actions to the scale of business subject to such actions in order that small businesses will not be unduly or disproportionately burdened. Marketing orders issued pursuant to the Act, and rules issued thereunder, are unique in that they are brought about through group action of essentially small entities acting on their own behalf. Thus, both statutes have small entity orientation and compatibility.

There are approximately 35 handlers of Idaho-Oregon onions subject to regulation under the marketing order, and approximately 450 producers in the production area. Small agricultural service firms are defined as those whose annual receipts are less than $3,500,000, and small agricultural producers have been defined by the Small Business Administration (13 CFR 121.601) as those having annual receipts of less than $500,000. The majority of onion producers and handlers subject to regulations under the order may be classified as small entities.

On June 30, 1992, the Idaho-Eastern Oregon Onion Committee (Committee) unanimously recommended amending the order's handling regulation to change the term "pearl onions" to "pickler onions" and to reduce the maximum size of such onions to not more than 1 inch in diameter. A proposed rule was published in the October 6, 1992 issue of the Federal Register (57 FR 45993), giving interested persons until November 5, 1992, to file comments with respect to the proposal. In response to the proposal, three comments were received. One extensive comment from the only current pearl onion producer presented arguments contrary to those of the Committee. To allow both the Committee and other interested persons sufficient time to study the comments and provide additional comments and background material, the comment period was reopened until January 22, 1993 (58 FR 3234, January 8, 1993). One additional comment, from the Committee, was received during the extended comment period.

Paragraph (h) of § 958.328 Handling regulation, currently defines pearl onions as onions grown using specific cultural practices that limit growth to the same general size as boiler and pickler onions, measuring 1¾ inches in diameter or less. The regulation groups all small onions under the heading of boilers and picklers with sizes up to 1¾ inches in diameter. The United States Standards for Grades of Onions (Other Than Bermuda-Granex-Grano and Creole Type) (7 CFR 51.2834) states that the size range for boiler onions shall be 1 to 1⅞ inches while picklers shall be 1 inch or less in diameter.

Pursuant to paragraph (e) of § 958.328, pearl onions are handled as special purpose shipments and, thus, are exempt from the grade, size, maturity, assessment and inspection requirements of the order. However, pearl onions must comply with safeguard requirements of the order.

The Department previously increased the exempted size of pearl onions to 1¾ inches in diameter (55 FR 36601, September 6, 1990). That increase was justified because a small number of the culturally-grown, pearl onions were larger than the intended size of 1 inch or less in diameter. The Committee had reported that buyers were more willing to purchase the somewhat larger onions in lots of pearl onions than to pay the additional handling costs associated with sorting the various sizes. Because pearl onions are sold as a specialty item, distinct from other onions grown in the production area, it was not expected that the increase in exemption size would adversely affect the marketing of other onions.

At its June 30, 1992, meeting, the Committee recommended changing the term "pearl onions" to "pickler onions," and reducing the maximum size of such onions to 1 inch. Also, at that time, the Committee believed that the larger sizes of exempt pearl onions; i.e., between 1 inch and 1¾ inches in diameter, competed directly with onions regulated under the order. The current regulation requires that white varieties of onions must be at least 1 inch in diameter in order to be shipped, while white pearl onions must be no more than 1¾ inches in diameter. This size overlap for exempted and regulated onions has presented a compliance problem for the Committee. Thus, the Committee recommended that pearl onions which range between 1 inch and 1¾ inches in diameter not be exempt from order requirements. The Committee recommended that such pearl onions be subject to the same grade, size, maturity, assessment and inspection requirements as other smaller-sized onions regulated under the order.

Four comments were received in response to the October 6, 1992 proposed rule, one from the Idaho-Eastern Oregon Onion Committee and three from members of the onion industry who would be affected by this rule. One comment was received from Magic Valley Growers, Ltd., the principal domestic producer of pearl onions. The commenter objected to lowering the maximum size from 1¾ inches to 1 inch in diameter and stated that the industry generally considers pearl onions to be up to 1¼ inches in diameter. The commenter objected to the proposal to redefine "pearl onions" as "pickler onions." The commenter stated that smaller sized pearl onions are called "picklers" and are usually ¾ to 1 inch in diameter, which is generally too small for consumer use. The commenter stated that slightly larger pearl onions are called "creamers" which range from 1 to 1¼ inches in diameter. The commenter contended that about two-thirds of its pearl onion shipments are 1 to 1¼ inches in diameter.

The commenter stated that its original intent in requesting the maximum size increase to 1¾ inches was to provide an adequate tolerance and that it has never intended to produce pearl onions smaller than 1 inch in diameter. The commenter stated that pearl onions up to 1¾ inches in diameter do not compete with other varieties of onions shipped to retail outlets.

The commenter also objected to the statement in the proposed rule that after harvest, pearl onions were virtually indistinguishable from other small onions. He commented that pearl onions are grown from special varieties, that Sweet Spanish varieties are too large at maturity to meet the maximum size requirement for pearl onions, and that pearl onions are shipped to specialty or gourmet markets which are different from regular onion markets.

Finally, the commenter objected that the proposed rule would not permit the shipment of red and yellow pearl onions more than 1 inch in diameter.

Two additional comments were received from California-based pearl onion handlers who are supplied by Magic Valley Growers, Ltd. Both comments stated that the proposed 1 inch maximum size for pearl onions was too restrictive and that most of their pearl onion business is for onions 1 to 1¼ inches in diameter. In addition, they were concerned that the proposed size requirement would prevent the marketing of red and yellow varieties of pearl onions, even though such onions are an important part of the commenters' seasonal sales.

The Committee held a meeting on December 16, 1992, to resolve the apparent differences between the comments filed and the original recommendations of the Committee. Representatives of Magic Valley Foods, Ltd. participated in the meeting.

As a result of the meeting, the Committee filed a comment to withdraw its original recommendations to reduce the pearl onion maximum size requirement to 1 inch in diameter. The Committee believes that, because the majority of pearl onions shipped are 1 to 1¼ inches in diameter, the current requirement of 1¾ inches maximum diameter is acceptable and need not be changed. This action also would allow handlers to meet the market demands for red and yellow varieties of pearl onions that are 1 to 1½ inches in diameter, which would have been prohibited under the original recommendation.

In its comment, the Committee also requested withdrawal of its original recommendation to change the term "pearl" onion to "pickler" onion. That original proposal should be withdrawn because the term pickler refers to smaller size pearl onions which are not representative of the majority of pearl onions marketed.

During the meeting, the Committee also considered further action with regard to pearl onions. It was pointed out that market inspection reports indicated that some exempt onions larger than 1¾ inches in diameter have appeared in marketing channels. The Committee believed that the size exemption must be verified and the best way to do that would be to add inspection requirements to verify the maximum size on all pearl onions. Thus, the Committee recommended unanimously that all pearl onions be inspected and certified for maximum size.

The Committee also discussed whether pearl onions should be subject to assessments. It believes that all segments of the Idaho-Eastern Oregon onion industry, including the pearl onion segment of the industry, benefit from the order's research and promotion activities. Thus, the Committee recommended unanimously that pearl onion shipments be assessed.

Therefore, under the Committee's revised proposal, all pearl onions up to a maximum of 1¾ inches in diameter would be shipped under paragraph (e) Special purpose shipments but such onions would be subject to maximum size, assessment, and inspection requirements. The Committee also recommended that reference to pearl onions be removed from paragraph (f) Safeguards, of § 958.328, since such requirements would no longer be necessary. Also, for clarification, the reference to pearl onions under paragraph (h) Definitions, should be revised by adding after the words "boilers and picklers" the words "* * * and that have been inspected and certified as * * *." The Committee believes that these recommendations address the written comments as well as those voiced at the December 16 meeting.

This action also proposes that paragraph (i) Applicability to Imports, of § 958.328 be removed from the handling regulation. That paragraph provides information that is contained in 7 CFR 980.117 Import regulations; onions. Because the same information applicable to imported onions is contained in the import regulations, paragraph (i) in the domestic handling regulations should be removed to eliminate redundancy of regulations.

These recommended changes are intended to result in clearer terminology, a more consistent application of assessments, and an improved ability by the committee to oversee compliance with program requirements.

The Administrator of the AMS has determined that this action would not have a significant economic impact on a substantial number of small entities. Written comments, timely received, in response to this action will be considered before finalization of this proposed rule.

The information collection requirements that are contained in these regulations have been previously approved by the Office of Management and Budget (OMB) and have been assigned OMB No. 0581–0087.

This proposed rule, as revised, is significantly different from the proposed rule published in the Federal Register on October 6, 1992. Thus, the Department believes that it is in the public interest to publish this revision as a proposed rule with a 30-day comment period.

List of Subjects in 7 CFR Part 958

Marketing agreements, Onions, Reporting and recordkeeping requirements.

For the reasons set forth in the preamble, it is proposed that 7 CFR part 958 be amended as follows:

PART 958—ONIONS GROWN IN CERTAIN DESIGNATED COUNTIES IN IDAHO AND MALHEUR COUNTY, OREGON

1. The authority citation for 7 CFR part 958 continues to read as follows:

Authority: Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674.

2. Section 958.328 is proposed to be amended by revising paragraph (e), revising the introductory sentence of paragraph (f), revising paragraph (f)(2), revising paragraph (h), and removing paragraph (i) to read as follows:

§ 958.328 Handling regulation.

* * * * *

(e) *Special purpose shipments.* The minimum grade, size, maturity, assessment, and inspection requirements of this section shall not be applicable to shipments of onions for any of the following purposes: (1) Planting, (2) livestock feed, (3) charity, (4) dehydration, (5) canning, (6) freezing, (7) extraction, and (8) pickling. In addition, the minimum grade, size, and maturity requirements set forth in paragraph (a) of this section shall not be applicable to shipments of pearl onions, but the maximum size requirements in paragraph (h) of this section and the assessment and inspection requirements shall be applicable to shipments of pearl onions.

(f) *Safeguards.* Each handler making shipments of onions for dehydration, planting, canning, freezing, extraction or pickling pursuant to paragraph (e) of this section shall: * * *

(2) Prepare, on forms furnished by the committee, a report in quadruplicate on each individual shipment to such outlets authorized in paragraph (c) of this section;

* * * * *

(h) *Definitions.* The terms "U.S. No. 1," "U.S. Commercial," and "U.S. No. 2" have the same meaning as defined in the United States Standards for Grades of Onions (Other than Bermuda-Granex-Grano and Creole Types), as amended (7 CFR 51.2830–2854), or the United States Standards for Grades of Bermuda-Granex-Grano Type Onions (7 CFR 51.3195–3209), as amended, whichever is applicable to the particular variety, or variations thereof specified in this section. The term "braided red onions" means onions of red varieties with tops braided (interlaced). "Pearl onions" means onions produced using specific cultural practices that limit growth to the same general size as boilers and picklers, and that have been inspected and certified as measuring 1¾ inches in diameter or less. The term "moderately cured" means the onions are mature and are more nearly well cured than fairly well cured. Other terms used in this section have the same meaning as when used in Marketing Agreement No. 130 and this part.

Dated: June 23, 1993.

Robert C. Keeney,

Deputy Director, Fruit and Vegetable Division.

[FR Doc. 93–15273 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–02–P

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7 CFR Part 1007

[DA–93–14]

Milk in the Georgia Marketing Area; Notice of Proposed Suspension of Certain Provisions of the Order

AGENCY: Agricultural Marketing Service, USDA.

ACTION: Proposed suspension of rule.

SUMMARY: This document invites written comments on a proposal to suspend for the months of July and August 1993 provisions of the Georgia Federal milk marketing order that provide for

payments to producers on the basis of a base and excess payment plan. The dairy farmer cooperatives that requested the suspension say that milk supplies will be tight in July and August and therefore production should not be discouraged through payment of the excess price for milk produced in excess of the base amount.

DATES: Comments are due no later than July 15, 1993.

ADDRESSES: Comments (two copies) should be filed with the USDA/AMS/Dairy Division, Order Formulation Branch, room 2968, South Building, P.O. Box 96456, Washington, DC 20090–6456.

FOR FURTHER INFORMATION CONTACT: Richard A. Glandt, Marketing Specialist, USDA/AMS/Dairy Division, Order Formulation Branch, room 2968, South Building, P.O. Box 96456, Washington, DC 20090–6456, (202) 720–4829.

SUPPLEMENTARY INFORMATION: The Regulatory Flexibility Act (5 U.S.C. 601–612) requires the Agency to examine the impact of a proposed rule on small entities. Pursuant to 5 U.S.C. 605(b), the Administrator of the Agricultural Marketing Service has certified that this proposed action would not have a significant economic impact on a substantial number of small entities. This action will encourage milk production during the months of July and August, which are months of declining milk production.

This proposed rule has been reviewed by the Department in accordance with Departmental Regulation 1512–1 and the criteria contained in Executive Order 12291 and has been determined to be a "non-major" rule.

This proposed suspension has been reviewed under Executive Order 12778, Civil Justice Reform. This action is not intended to have a retroactive effect. If adopted, this proposed action will not preempt any state or local laws, regulations, or policies, unless they present an irreconcilable conflict with the rule.

The Agricultural Marketing Agreement Act, as amended (7 U.S.C. 601–674) ("the Act"), provides that administrative proceedings must be exhausted before parties may file suit in court. Under § 608c(15)(A) of the Act, any handler subject to an order may file with the Secretary a petition stating that the order, any provisions of the order, or any obligation imposed in connection with the order is not in accordance with law and requesting a modification of the order or to be exempted from the order. A handler is afforded the opportunity for a hearing on the petition. After a hearing, the Secretary would rule on the petition. The Act provides that the district court of the United States in any district in which the handler is an inhabitant, or has its principal place of business, has jurisdiction in equity to review the Secretary's ruling on the petition, provided a bill in equity is filed not later than 20 days after the date of the entry of the ruling.

Notice is hereby given that, pursuant to the provisions of the Act, the suspension of the following provisions of the order regulating the handling of milk in the Georgia marketing area is being considered for the months of July and August 1993:

1. In § 1007.32, paragraph (a).
2. In § 1007.61 (a), the words "of September through January".
3. In § 1007.61, paragraph (b).

All persons who want to send written data, views or arguments about the proposed suspension should send two copies of them to the USDA/AMS/Dairy Division, Order Formulation Branch, Room 2968, South Building, P.O. Box 96456, Washington, DC 20090–6456, by the 15th day after publication of this notice in the **Federal Register**. The period for filing comments is limited to 15 days because a longer period would not provide the time needed to complete the required procedure and include July 1993 in the suspension period.

The comments that are sent will be made available for public inspection in the Dairy Division during normal business hours (7 CFR 1.27(b)).

Statement of Consideration

The proposed suspension would make inoperative the requirement that producers be paid on the basis of the base and excess plan for the months of July and August 1993. The proposal was submitted by Dairymen, Inc. (DI), Carolina/Virginia Milk Producers Association, Inc., and Southern Milk Sales, Inc. These three cooperative associations have a substantial amount of milk pooled on the Georgia milk market. In support of their proposal, the cooperative associations state that the suspension is needed because in recent years milk in this area has been in short supply during July and August. Without the suspension, the cooperatives contend the market's base and excess plan would discourage production in those months. Thus, it may be appropriate to suspend the base and excess plan for the months of July and August 1993.

List of Subjects in 7 CFR Part 1007

Milk marketing orders.

The authority citation for 7 CFR Part 1007 continues to read as follows:

Authority: Secs. 1–19, 48 Stat. 31, as amended; 7 U.S.C. 601–674.

Dated: June 23, 1993.

L.P. Massaro,

Acting Administrator.

[FR Doc. 93–15203 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–02–M

NUCLEAR REGULATORY COMMISSION

[RIN 3150–AE46]

10 CFR Part 50

Notification of Spent Fuel Management and Funding Plans By Licensees of Prematurely Shut Down Power Reactors

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission (NRC) proposes to amend its regulations to clarify the timing of notification to the NRC of spent fuel management and funding plans by licensees of those nuclear power reactors that have been shut down before the expected end of their operating lives. The proposed rule, if adopted, would require that a licensee submit such notification either within 2 years after permanently ceasing operation of its licensed power reactor or no later than 5 years before the reactor operating license expires, whichever event occurs first.

DATES: Comment period expires September 13, 1993. Comments received after this date will be considered if it is practical to do so, but the Commission is able to assure consideration only for comments received on or before this date.

ADDRESSES: Mail written comments to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Attention: Docketing and Service Branch.

Deliver comments to: 11555 Rockville Pike, Rockville, Maryland, between 7:45 am and 4:15 pm Federal workdays.

Examine copies of comments received at: The NRC Public Document Room, 2120 L Street, NW., (Lower Level), Washington, DC.

FOR FURTHER INFORMATION CONTACT: Robert Wood, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 504–1255.

SUPPLEMENTARY INFORMATION:

Background

On August 31, 1984, the NRC published a final rule, Requirements for Licensee Actions Regarding the Disposition of Spent Fuel Upon Expiration of Reactor Operating Licensees (49 FR 34689). In part, this rule added to the NRC's regulation a new paragraph—10 CFR 50.54(bb)—which required licensees of nuclear power reactors to submit for NRC review and approval, no later than 5 years before the reactor operating license expires, their plans for managing spent fuel at their site until title to the spent fuel is transferred to the Department of Energy (DOE). These plans are to include plans for funding of spent fuel management before transfer to DOE.

In the preamble to the 1984 final rule, the Commission responded to comments on the proposed rule by stating that:

> Premature shutdown or termination of a reactor's license which results in an unanticipated need for interim storage or disposal arrangements is not expected to be a generic problem. The Commission will consider the consequences of premature termination of operation, should such an event occur, on a case-by-case basis. Even if a reactor shuts down prematurely, it will still be required to comply with license requirements (49 FR 34689, at p. 34690).

Similarly, in the final decommissioning rule (53 FR 24018; June 27, 1988), the Commission acknowledged that, in certain instances, reactors might be permanently shut down before completing the full term of their operating lives. However, because the Commission determined that such instances would be infrequent, it did not explicitly include in the rule remedies for premature shutdown.

Subsequent to the publication of both the final spent fuel disposition and decommissioning rules, 6 power reactor facilities have been shut down prematurely: the Fort St. Vrain Nuclear Generating Station, the Rancho Seco Nuclear Generating Station, Unit 1 of the San Onofre Nuclear Station, the Shoreham Nuclear Power Station, the Trojan Nuclear Station and the Yankee Nuclear Power Station. Unit 2 of the Three Mile Island Nuclear Station also effectively permanently ceased operation after suffering its March 1979 accident although the licensee never formally announced its shutdown.

The Commission's regulations in 10 CFR 50.82(a) provide that all power reactors that permanently cease operation after July 27, 1988, including those that shut down prematurely, must apply to the NRC to decommission their facilities within 2 years following permanent cessation of operations. Further, 10 CFR 50.82(b)(1)(iii) indicates that the proposed decommissioning plan submitted by the licensee when applying to decommission should consider factors such as the unavailability of waste disposal capacity and other site specific factors affecting the licensee's capability to carry out decommissioning safely.

Discussion

The Commission requires that each licensee submit its decommissioning plans in a timely manner after permanently ceasing operations. The NRC's regulations recognize that the ability of a licensee to plan properly and safely for decommissioning depends on a licensee's ability to manage and dispose of its spent fuel. Therefore, the timing of actions required in 10 CFR 50.54(bb) for managing and storing spent fuel should be consistent with the decommissioning timing requirements in 10 CFR 50.82. The intent of 10 CFR 50.54(bb) is to provide for plans for the orderly management of spent fuel by the time the reactor is permanently shut down. When the NRC developed § 50.54(bb), premature reactor shutdown was not deemed to be very likely and, in any case, DOE had scheduled to begin operating a permanent repository in 1998. However, the number of reactors that have been shut down prematurely has increased over earlier expectations. Also, DOE has delayed development of a permanent repository, which increases the number of reactors that will likely need to store spent fuel on-site.

Therefore, the Commission proposes to amend 10 CFR 50.54(bb) to require a power reactor licensee to notify the NRC of the licensee's program to manage and provide funding for management of the irradiated fuel at the reactor either within 2 years following permanent cessation of operation of the reactor or no later than 5 years before expiration of the reactor operating license, whichever occurs first. The NRC chose a term of 2 years following permanent cessation of operations to be consistent with the timing provisions in § 50.82(a) for submittal of a decommissioning plan. Also, continuing to require licensees to submit spent fuel management and funding plans 5 years prior to expiration of the operating license for a plant that does not shut down prematurely will maintain consistency with the timing provisions of § 50.75(f) for submittal of a preliminary decommissioning plan.

Additionally, pursuant to 10 CFR 50.75, costs of spent fuel removal and disposal are not included in the decommissioning cost estimates. This proposed rule is consistent with that objective. The Commission will consider a rulemaking on the inclusion of spent fuel costs as part of decommissioning costs when its information base on spent fuel costs is fully developed.

A licensee will need to plan to manage spent fuel once its plant permanently ceases operation so as to comply with the NRC's decommissioning regulations in 10 CFR 50.82. Therefore, the conforming changes in 10 CFR 50.54(bb) would not represent any additional requirements. Rather, these changes are administrative because they clarify the timing of submissions of spent fuel management and funding plans for those licensees whose power reactors are shut down prematurely.

Finding of No Significant Environmental Impact: Availability

These proposed amendments would clarify the timing of submission of plans for managing and providing funding for managing all irradiated fuel for those licensees whose power reactors are shut down prematurely. This action is required to coordinate the submission of spent fuel management and funding plans with submission of decommissioning plans for prematurely shutdown reactors. Because management and funding of spent fuel can have a significant impact on the method and timing of decommissioning, licensees should submit their plans for spent fuel management and funding to be consistent with the timing provisions for decommissioning plans in § 50.82(a) (i.e., no later than 2 years after permanent shutdown).

Neither this action nor the alternative of maintaining the existing rule would significantly affect the environment. Changes in the timing of the submission of spent fuel management and funding for prematurely shutdown power reactors would not alter the effect on the environment of the licensed activities considered in either the final spent fuel disposition rule (49 FR 34689; August 31, 1984) or the final decommissioning rule (53 FR 24018; June 27, 1988) as analyzed in the Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities (NUREG–0586, August 1988). The alternative to this proposed action would not significantly affect the environment. Therefore, the Commission has determined, under the National Environmental Policy Act of

1969, as amended, and the Commission's regulations in subpart A of 10 CFR part 51, that this rule, if adopted, would not be a major Federal action significantly affecting the quality of the human environment, and therefore an environmental impact statement is not required. No other agencies or persons were contacted for this proposed action, and no other documents related to the environmental impact of this proposed action exist. The foregoing constitutes the environmental assessment and finding of no significant impact for this proposed rule.

Paperwork Reduction Act Statement

This proposed rule does not contain a new or amended information collection requirement subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). Existing requirements were approved by the Office of Management and Budget approval number [3150–0011].

Regulatory Analysis

On August 31, 1984, the NRC published a final rule, Requirements for Licensee Actions Regarding the Disposition of Spent Fuel Upon Expiration of Reactor Operating Licensees (49 FR 34689). As part of this rule, the NRC required power reactor licensees to submit for NRC review and approval, no later than 5 years before expiration of the reactor operating license, their plans for managing spent fuel at their site until title to the spent fuel is transferred to the Department of Energy (DOE). These plans are to include plans for funding of spent fuel management before transfer to DOE.

On June 27, 1988, the Commission promulgated its final decommissioning rule (53 FR 24019). Section 50.82 of this rule provides that licensees of all power reactors that permanently cease operation after July 27, 1988, including those that shut down prematurely, must apply to the NRC to decommission their facilities within 2 years following permanent cessation of operations. Section 50.82(b)(1)(iii) further provides that the proposed decommissioning plan submitted by the licensee should consider factors such as the unavailability of waste disposal capacity and other site specific factors affecting the licensee's capability to carry out decommissioning safely. The Commission requires licensees to submit decommissioning plans in a timely manner after they permanently cease operations. The NRC's regulations recognize a licensee's ability to plan properly and safely for decommissioning depends on a licensee's ability to dispose of its spent fuel. Thus, the timing of requirements for spent fuel management and storage should be consistent with the timing for submission of decommissioning plans, including those for power reactors that have been shut down prematurely. Therefore, the NRC proposes to amend 10 CFR 50.54(bb) to require each power reactor licensee to notify the NRC of its program to manage and provide funding for management of the irradiated fuel at its reactor either within 2 years after the licensee permanently ceases operation of its reactor or no later than 5 years before its reactor operating license expires, whichever occurs first.

Although the timing of preparation and submission of plans for management and funding of spent fuel would be formally advanced for licensees that shut down their power reactors prematurely, these licensees would be required to incorporate the same consideration of spent fuel management and funding in their decommissioning plans required to be submitted under 10 CFR 50.82. The proposed regulations merely make 10 CFR 50.54(bb) consistent with 10 CFR 50.82. Thus, there should be no substantive impact on power reactor licensees.

The proposed rule would not create substantial costs for other licensees. The proposed rule also will not significantly affect state and local government and geographical regions, or the environment, or create substantial costs to the NRC or other Federal agencies. The foregoing discussion constitutes the regulatory analysis for this proposed rule.

Regulatory Flexibility Certification

As required by the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission certifies that this rule, if adopted, will not have a significant impact upon a substantial number of small entities. The proposed rule would potentially affect approximately 115 nuclear power reactor operating licenses. Nuclear power plant licensees do not fall within the definition of small businesses as defined in section 3 of the Small Business Act, 15 U.S.C. 632, the Small Business Size Standards of the Small Business Administrator (13 CFR part 121), or the Commission's Size Standards (56 FR 56671; November 6, 1991).

Backfit Analysis

The NRC has determined that this proposed rule does not impose a backfit as defined in 10 CFR 50.109(a)(1). Therefore, a backfit analysis is not required for this proposed rule.

List of Subjects in 10 CFR Part 50

Antitrust, Classified information, Criminal penalty, Fire protection, Incorporation by reference, Intergovernmental relations, Nuclear power plants and reactors, Radiation protection, Reactor siting criteria, Reporting and recordkeeping requirements.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended, and 5 U.S.C. 553, the NRC is proposing to adopt the following amendment to 10 CFR part 50.

PART 50—DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

1. The authority citation for Part 50 continues to read as follows:

Authority: Secs. 102, 103, 104, 105, 161, 182, 183, 186, 189, 68 Stat. 936, 937, 938, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 1244, as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201 as amended, 202, 206, 88 Stat. 1242 as amended 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 50.7 also issued under Pub. L. 95–601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 50.10 also issued under secs. 101, 185, 68 Stat. 955, as amended (42 U.S.C. 2131, 2235); sec. 102, Pub. L. 91–190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.13, 50.54 (dd), and 50.103 also issued under sec. 108, 68 Stat. 939 as amended (42 U.S.C. 2138). Sections 50.23, 50.35, 50.55, and 50.56 also issued under sec. 185, 68 Stat. 955 (42 U.S.C. 2235). Sections 50.33a, 50.55a and Appendix Q also issued under sec. 102, Pub. L. 91–190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.34 and 50.54 also issued under sec. 204, 88 Stat. 1245 (42 U.S.C. 5844). Sections 50.58–50.91, and 50.92 also issued under Pub. L. 97–415, 96 Stat. 2073 (42 U.S.C. 2239). Section 50.78 also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Sections 50.80–50.81 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Appendix F also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

2. Section 50.54 is amended by revising paragraph (bb) to read as follows:

§ 50.54 Conditions of licenses.

* * * * *

(bb) For nuclear power reactors licensed by the NRC, the licensee shall, within 2 years following permanent cessation of operation of the reactor or 5 years before expiration of the reactor operating license, whichever occurs first, submit written notification to the Commission for its review and preliminary approval of the program by which the licensee intends to manage and provide funding for the

management of all irradiated fuel at the reactor following permanent cessation of operation of the reactor until title to the irradiated fuel and possession of the fuel is transferred to the Secretary of Energy for its ultimate disposal in a repository. Final Commission review will be undertaken as part of any proceeding for continued licensing under part 50 or part 72. The licensee must demonstrate to NRC that the elected actions will be consistent with NRC requirements for licensed possession of irradiated nuclear fuel and that the actions will be implemented on a timely basis. Where implementation of such actions requires NRC authorizations, the licensee shall verify in the notification that submittals for such actions have been or will be made to NRC and shall identify them. A copy of the notification shall be retained by the licensee as a record until expiration of the reactor operating license. The licensee shall notify the NRC of any significant changes in the proposed waste management program as described in the initial notification.

* * * * *

Dated at Rockville, Maryland this 16th day of June, 1993.

For the Nuclear Regulatory Commission.

James L. Blaha,

Acting Executive Director for Operations.

[FR Doc. 93–15383 Filed 6–29–93; 8:45 am]

BILLING CODE 7590–01–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 92–CE–57–AD]

Airworthiness Directives; Twin Commander Aircraft Corporation Models 500, 560A, 560E, 680, 680E, and 720 Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes to adopt a new airworthiness directive (AD) that would apply to certain Twin Commander Aircraft Corporation (Twin Commander) Models 500, 560A, 560E, 680, 680E, and 720 airplanes. The proposed action would require inspecting the wing front spar lower cap (spar cap) for interference, fretting, or corrosion between the firewall flange and spar cap flange at Wing Station (WS) 96, and clearing any interference, repairing any fretting or corrosion damage, and replacing any cracked spar cap. The Federal Aviation Administration (FAA) has received reports of two of the affected airplanes having cracked spar caps at WS 96. The actions specified by the proposed AD are intended to prevent failure of the wing structure caused by a cracked spar cap at WS 96.

DATES: Comments must be received on or before September 15, 1993.

ADDRESSES: Submit comments in triplicate to the FAA, Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92–CE–57–AD, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106. Comments may be inspected at this location between 8 a.m. and 4 p.m., Monday through Friday, holidays excepted.

Service information that applies to the proposed AD may be obtained from the Twin Commander Aircraft Corporation, 19003 59th Drive NE., Arlington, Washington 98223. This information also may be examined at the Rules Docket at the address above.

FOR FURTHER INFORMATION CONTACT: Mr. Mike Pasion, Aerospace Engineer, FAA, Northwest Mountain Region, 1601 Lind Avenue SW., Renton, Washington 98055–4056; telephone (206) 227–2594.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 92–CE–57–AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92–CE–57–AD, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

Discussion

The FAA has received two reports of cracks caused by corrosion on the spar cap forward flange at WS 96 on Twin Commander Model 680E airplanes operated in Sweden. One of these reports cited an accident where further investigation revealed that (1) the firewall flange had worn a notch in the spar flange; (2) the protective coating had deteriorated around this area; (3) corrosion had then formed in this notch; and (4) a crack had initiated at this area. These factors were determined to have contributed to the referenced accident.

Twin Commander has issued Service Bulletin (SB) No. 212, dated November 3, 1992, which specifies procedures for the following on certain Twin Commander Models 500, 560A, 560E, 680, 680E, and 720 airplanes: (1) inspecting the main spar lower cap for corrosion or interference between the firewall flange and spar flange; and (2) clearing any interference and repairing any corrosion damage to the spar cap.

After examining the circumstances and reviewing all available information related to the incidents described above, the FAA has determined that AD action should be taken to prevent failure of the wing structure caused by a cracked wing spar cap at WS 96.

Since an unsafe condition has been identified that is likely to exist or develop in other Twin Commander Models 500, 560A, 560E, 680, 680E, and 720 airplanes of the same type design, the proposed AD would require inspecting the spar cap for interference, fretting, or corrosion between the firewall flange and spar cap flange at WS 96, and clearing any interference, repairing any fretting or corrosion damage, and replacing any cracked spar cap. The proposed inspection and repair, if applicable, would be accomplished in accordance with Twin Commander SB No. 212, dated November 3, 1992.

The FAA estimates that 332 airplanes in the U.S. registry would be affected by the proposed AD, that it would take approximately 20 workhours per airplane to accomplish the proposed inspection, and that the average labor rate is approximately $55 an hour. Parts

to accomplish the proposed inspection would cost approximately $20. Based on these figures, the total cost impact of the inspection specified in the proposed AD on U.S. operators is estimated to be $371,840. One airplane owner has already accomplished the proposed inspections, and found no damage or cracks.

In addition, if the proposed inspection would reveal cracks, or corrosion that exceeds certain limits, replacing the spar cap would be required at a cost of approximately $100,000, parts and labor included. An airplane affected by the proposed AD could have a compliance cost as low as approximately $1,120 (labor + parts) if no cracks, interference, or corrosion damage is found during the inspection, and as high as approximately $101,120 (inspection + spar cap replacement) if the operator replaces the spar cap.

Based on these airplanes having an expected average remaining operating life of 10 years or 15 years, the annualized compliance cost would range between:

- If only inspecting the spar cap at WS 96 is necessary for airplanes with an average remaining operating life of 10 years: $1,120 × 0.14349 (10-year capital recovery factor at a 7 percent interest rate) = $168 annualized cost;
- If only inspecting the spar cap at WS 96 is necessary for airplanes with an average remaining operating life of 15 years: $1,120 × 0.11434 (15-year capital recovery factor at a 7 percent interest rate) = $126;
- If replacing the spar cap is necessary for airplanes with an average remaining operating life of 10 years: approximately $101,120 × 0.15349 (capital recovery factor at a 7 percent interest rate) = $15,520; or
- If replacing the spar cap is necessary for airplanes with an average remaining operating life of 15 years: approximately $101,120 × 0.11434 (capital recovery factor at a 7 percent interest rate) = $11,562.

The proposed AD's from Dockets No. 92–CE–43–AD (for Models 500, 560A, 560E, 680, 680E, and 720) and No. 92–CE–58–AD (for Models 685, 690, 690A, and 690B) would also affect certain airplanes included in this proposed AD. The compliance costs of these other proposed AD's would add to the cost discussed above. However, replacing the spar cap would only be required once, so the $100,000 replacement cost, if required, would be a one-time action.

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily or disproportionally burdened by government regulations. The RFA requires government agencies to determine whether rules would have a "significant economic impact on a substantial number of small entities," and, in cases where they would, conduct a Regulatory Flexibility Analysis in which alternatives to the rule are considered. FAA Order 2100.14A, Regulatory Flexibility Criteria and Guidance, outlines FAA procedures and criteria for complying with the RFA. Small entities are defined as small businesses and small not-for-profit organizations that are independently owned and operated or airports operated by small governmental jurisdictions.

The 331 U.S.-registered airplanes affected by the proposed AD that have not complied with Twin Commander SB No. 212, dated November 3, 1992, are owned according to the following breakdown: 196 by individuals, 2 by U.S. government agencies, 7 by states or local governments, and 126 by other entities. Six entities own 2 airplanes each.

The FAA cannot determine the sizes of all the affected non-individual owner entities nor the relative significance of the costs estimated above. Because of these uncertainties, no cost thresholds for significant economic impact can be reasonably determined. The FAA solicits comments concerning the impact of this proposed AD on small entity owners of affected airplanes. Based on the possibility that this proposed AD could have a significant impact on a substantial number of small entities, the FAA conducted a regulatory flexibility analysis. A copy of this analysis may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES".

The regulations proposed herein would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "major rule" under Executive Order 12291; (2) is significant under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979) because of substantial public interest; and (3) if promulgated, may have a significant economic impact on a substantial number of small entities. The FAA has conducted an Initial Regulatory Flexibility Determination and Analysis and has considered alternatives to this proposal that could minimize the impact on small entities. A copy of this analysis may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES". After careful consideration, the FAA has determined that the proposed action is the best course to achieve the safety objective of returning the airplane to its original certification level of safety. Alternative actions and views are solicited from interested persons and will be considered by the FAA in the development of the final rule.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 14 CFR part 39 of the Federal Aviation Regulations as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new AD:

Twin Commander Aircraft Corporation: Docket No. 92–CE–57–AD.

Applicability: The following model and serial number airplanes that do not have the wing front spar lower cap replaced in accordance with procedures specified in paragraph (a)(3) of this AD, certificated in any category:

Model	Serial numbers
500	618 through 750.
560A	231 though 450.
560E	433 through 750.
680	242 through 658.
680E	623 through 750.
720	501 through 750.

Compliance: Required within the next 50 hours time-in-service after the effective date of this AD, unless already accomplished.

To prevent failure of the wing structure caused by a cracked wing front spar lower cap at Wing Station (WS) 96, accomplish the following:

(a) Inspect the wing front spar lower cap of each wing for corrosion or interference between the firewall flange and spar flange in accordance with the ACCOMPLISHMENT INSTRUCTIONS section of Twin Commander

Service Bulletin (SB) No. 212, dated November 3, 1992.

(1) If any interference is found between the firewall flange and spar flange, prior to further flight, clear this interference in accordance with the ACCOMPLISHMENT INSTRUCTIONS section of Twin Commander SB No. 212, dated November 3, 1992.

(2) If any corrosion damage is found, prior to further flight, repair any corrosion damage to the wing front spar lower cap in accordance with the ACCOMPLISHMENT INSTRUCTIONS section of Twin Commander SB No. 212, dated November 3, 1992.

(3) If any cracks are found, prior to further flight, replace the wing front spar lower cap in accordance with replacement procedures obtained from the manufacturer through the Manager, Seattle Aircraft Certification Office, at the address specified in paragraph (c) of this AD.

(b) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate the airplane to a location where the requirements of this AD can be accomplished.

(c) An alternative method of compliance or adjustment of the compliance time that provides an equivalent level of safety may be approved by the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region, 1601 Lind Avenue S.W., Renton, Washington 98055–4056. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

NOTE: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

(d) All persons affected by this directive may obtain copies of the document referred to herein upon request to the Twin Commander Aircraft Corporation, 19003 59th Drive, N.E., Arlington, Washington 98223; or may examine this document at the FAA, Central Region, Office of the Assistant Chief Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.Issued in Kansas City, Missouri, on June 24, 1993.

John R. Colomy,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 93–15365 Filed 6–29–93; 8:45 am]

BILLING CODE 4910–13–U

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14 CFR Part 39

[Docket No. 92–CE–58–AD]

Airworthiness Directives: Twin Commander Aircraft Corporation 500, 680, 681, 685, and 690 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes to supersede Airworthiness Directive (AD) 91–08–09, which currently requires the following on certain Twin Commander Aircraft Corporation (Twin Commander) 500, 680, 681, 685, and 690 series airplanes: repetitively inspecting the wing front spar lower cap (spar cap) for corrosion; and replacing the spar cap if corrosion exceeds certain limits. The proposed action would incorporate updated and more detailed inspection procedures, extend the repetitive inspection intervals, and provide the option of incorporating one of three modifications as terminating action for the repetitive inspections. The actions specified by the proposed AD are intended to prevent wing structural damage that, if not detected, could progress to the point of failure.

DATES: Comments must be received on or before September 15, 1993.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92–CE–58–AD, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106. Comments may be inspected at this location between 8 a.m. and 4 p.m., Monday through Friday, holidays excepted.

Service information that applies to the proposed AD may be obtained from the Twin Commander Aircraft Corporation, 19003 59th Drive, NE., Arlington, Washington 98223. This information also may be examined at the Rules Docket at the address above.

FOR FURTHER INFORMATION CONTACT: Mr. Mike Pasion, Aerospace Engineer, FAA, Northwest Mountain Region, 1601 Lind Avenue SW., Renton, Washington 98055–4056; Telephone (206) 227–2594.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 92–CE–58–AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92–CE–58–AD, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

Discussion

AD 91–08–09, Amendment 39–6965 (56 FR 14307, April 9, 1991), currently requires the following on certain Twin Commander Aircraft Corporation (Twin Commander) 500, 680, 681, 685, and 690 series airplanes: repetitively inspecting the spar cap for corrosion; and replacing the spar cap if corrosion exceeds certain limits. The inspections are accomplished in accordance with Twin Commander Service Bulletin (SB) No. 208, dated June 11, 1990.

Twin Commander has revised SB No. 208 (Twin Commander SB No. 208A, dated November 9, 1992) to include updated and more detailed procedures for inspecting the spar cap for corrosion, and defines allowable corrosion service limits that specify an increase in the amount of time allowed between repetitive inspections.

The following includes instruction and procedures for replacing the spar cap:

- Twin Commander Custom Kit No. CK–144, Revision A, dated November 12, 1992, which applies to Twin Commander Models 685, 690, 690A, and 690B airplanes.
- Twin Commander Custom Kit No. CK–145, dated August 21, 1992, which applies to Twin Commander Models 500U, 500S, 680FL, and 680FL(P) airplanes.
- AVIADESIGN, Inc. Supplemental Type Certificate (STC), dated July 16, 1992, which applies to Twin Commander Models 690, 690A, and 690B airplanes.

Of the 562 affected airplanes registered in the United States, 10 have already accomplished the proposed inspection in accordance with Twin Commander SB No. 208A, dated

November 9, 1992. None of these airplanes required spar cap replacement.

After examining the circumstances and reviewing all available information related to the situation described above including the referenced service information, the FAA has determined that (1) Twin Commander SB No 208A, dated November 9, 1992, should be incorporated into the current AD; (2) the incorporation of one of the modifications referenced above should be considered terminating action for the currently required repetitive inspections of the spar cap; and (3) AD action should be taken in order to prevent wing structural damage that, if not detected, could progress to the point of failure.

Since an unsafe condition has been identified that is likely to exist or develop in Twin Commander 500, 680, 681, 685, and 690 series airplanes of the same type design, the proposed AD would supersede AD 91–08–09 with a new AD that would (1) retain the requirement of repetitively inspecting the spar cap, and replacing the spar cap if certain corrosion limits are exceeded; (2) incorporate Twin Commander SB No. 208A, dated November 9, 1992; and (3) incorporate the replacement modifications referenced above (as applicable) as terminating action for these repetitive inspections.

The compliance time for the proposed AD is presented in calendar time instead of hours time-in-service (TIS). The FAA has determined that a calendar time for compliance would be the most desirable method because the unsafe condition described by the proposed AD is caused by corrosion. Corrosion can occur on airplanes regardless of whether the airplane is in service.

The FAA estimates that 562 airplanes in the U.S. registry would be affected by the proposed AD, that it would take between 110 and 162 workhours per airplane (varies by model; a weighted average of 146 workhours) to accomplish the proposed inspection, and that the average labor rate is approximately $55 an hour. Based on these figures, the total initial cost impact of the inspection specified by the proposed AD on U.S. operators is estimated to be $4,688,980 ($8,343 per airplane). As previously discussed, 10 of the 562 affected airplanes have already accomplished the proposed inspection. This would reduce the initial cost impact of the inspection specified by the proposed AD on U.S. operators to $4,432,560.

The inspections currently required by AD 91–08–09 carry an earlier FAA-estimated cost impact on U.S. operators of $880 (16 workhours × $55 per hour) per airplane. In actuality, those inspections range from $1,100 (20 workhours × $55 per hour) to $1,980 (36 workhours × $55 per hour) depending on the airplane model. Because of the more comprehensive inspection procedures specified in Twin Commander SB No. 208A, the initial cost impact of the inspections of the proposed AD carry an additional cost impact of between $4,950 to $6,930 per airplane over that which is already required by AD 91–08–09. The proposed AD provides owners of the affected airplanes some relief from some of the provisions of AD 91–08–09. For example:

- If no corrosion is found, the proposed AD would require repetitive inspections at 36-calendar month intervals instead of 12-calendar month intervals, which is a savings of between $2,200 to $3,960 over the next 24 calendar months depending on the airplane model.
- If corrosion is less than 50 percent of the allowable service limits referenced in Twin Commander SB 208A, the proposed AD would require reinspection at 30-calendar month intervals instead of 12-calendar month intervals, which is a savings of between $2,750 to $4,950 over the next 30 calendar months depending on the airplane model.
- Replacing the spar cap terminates this repetitive inspection requirement, which is a savings of $1,100 to $1,980 per year depending on the airplane model.

In addition, if the proposed inspection revealed corrosion in excess of certain established limits, then replacing the spar cap would be required at a cost of approximately $100,000, parts and labor included. If the spar cap did not reveal corrosion in excess of certain established limits, then an airplane affected by the proposed AD could have an incremental compliance cost as low as $4,950 (proposed inspection cost at 110 workhours minus the cost of the inspection required by AD 91–08–09) or $6,930 (proposed inspection cost at 162 workhours minus the cost of the inspection required by AD 91–08–09). If replacing the spar cap would be necessary, an airplane affected by the proposed AD could have an incremental compliance cost as high as approximately $104,950 (inspection at 110 workhours minus the cost of the inspection required by AD 91–08–09 plus spar cap replacement) to $106,930 (inspection at 162 workhours minus the cost of the inspection required by AD 91–08–09 plus spar cap replacement).

The FAA cannot predict the results of the proposed inspections, especially as the airplanes continue to age. Approximately 61 percent of the airplanes inspected in accordance with Twin Commander SB No. 208 (AD 91–08–09) had no significant spar cap corrosion, 24 percent had less than 50 percent of the established corrosion service limits, and 13 percent had between 50 to 100 percent of the established corrosion service limits. Less than 3 percent of the airplanes exceeded the established corrosion service limits.

Based on an expected average remaining operating life of 20, 25, or 30 years per affected airplane (depending on the model), the incremental annualized compliance cost would be:

- If only repetitively inspecting the spar cap is necessary for airplanes with an average operating life of 20 years: $904 to $7,239 incremental annualized cost (depending on the airplane model and frequency of inspection, and using a 7 percent interest rate);
- If only repetitively inspecting the spar cap is necessary for airplanes with an average operating life of 25 years: $1,195 to $7,176 incremental annualized cost (depending on the airplane model and frequency of inspection, and using a 7 percent interest rate);
- If only repetitively inspecting the spar cap is necessary for airplanes with an average operating life of 30 years: $1,290 to $7,495 incremental annualized cost (depending on the airplane model and frequency of inspection, and using a 7 percent interest rate);
- If replacing the spar cap is necessary for airplanes with an average operating life of 20 years: approximately $9,675 incremental annualized cost (using a 7 percent interest rate) if the spar cap is replaced during the first inspection.
- If replacing the spar cap is necessary for airplanes with an average operating life of 25 years: approximately $8,719 incremental annualized cost (using a 7 percent interest rate) if the spar cap is replaced during the first inspection.
- If replacing the spar cap is necessary for airplanes with an average operating life of 30 years: approximately $8,145 incremental annualized cost (using a 7 percent interest rate) if the spar cap is replaced during the first inspection.

The proposed AD's from Dockets No. 92–CE–26–AD (for Model 500S and 690B), No. 92–CE–38–AD (for Models 685, 690, 690A, and 690B), and No. 92 CE–43–AD (for Models 500S, 500U,

680FL, 680FL(P), 680W, and 681), would also affect certain airplanes included in this proposed AD. The compliance costs of these other proposed AD's would add to the cost discussed above. However, replacing the spar cap would only be required once, so the $100,000 replacement cost, if required, would be a one-time action.

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily or disproportionally burdened by government regulations. The RFA requires government agencies to determine whether rules would have a "significant economic impact on a substantial number of small entities," and, in cases where they would, conduct a Regulatory Flexibility Analysis in which alternatives to the rule are considered. FAA Order 2100.14A, Regulatory Flexibility Criteria and Guidance, outlines FAA procedures and criteria for complying with the RFA. Small entities are defined as small businesses and small not-for-profit organizations that are independently owned and operated or airports operated by small governmental jurisdictions.

The 562 U.S.-registered airplanes affected by the proposed AD are owned according to the following breakdown: 92 by individuals, 7 by U.S. government agencies, 20 by states or local governments, and 443 by other entities. Twenty seven entities each own more than one of the affected airplanes: one owns 7, four own 5 each, three own 3 each, and nineteen own 2 each.

The FAA cannot determine the sizes of all the non-individual owner entities nor the relative significance of the costs estimated above. Because of these uncertainties, no cost thresholds for significant economic impact can be reasonably determined. The FAA solicits comments concerning the impact of this proposed AD on small entity owners of affected airplanes. Based on the possibility that this proposed AD could have a significant impact on a substantial number of small entities, the FAA conducted a regulatory flexibility analysis. A copy of this analysis may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES".

The regulations proposed herein would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "major rule" under Executive Order 12291; (2) is significant under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979) because of substantial public interest; and, (3) if promulgated, may have a significant economic impact on a substantial number of small entities. The FAA has conducted an Initial Regulatory Flexibility Determination and Analysis and has considered alternatives to this proposal that could minimize the impact on small entities. A copy of this analysis may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES". After careful consideration, the FAA has determined that the proposed action is the best course to achieve the safety objective of returning the airplane to its original certification level of safety. Alternative actions and views are solicited from interested persons and will be considered by the FAA in the development of the final rule.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 14 CFR part 39 of the Federal Aviation Regulations as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by removing AD 91–09–09, Amendment 39–6965 (56 FR 14307, April 9, 1991), and by adding the following new airworthiness directive:

Twin Commander Aircraft Corporation: Docket No. 92–CE–58–AD. Supersedes AD 91–08–09, Amendment 39–6965.

Applicability: The following model and serial number airplanes that do not have the wing front spar lower cap replaced in accordance with the procedures of one of the three modifications specified in paragraph (c) of this AD, certificated in any category:

Models	Serial No.
500U, 680FL, 680FL(P), and 680W.	1731 through 1854.
500S	1755 through 3323.
681	6001 through 6072.
685	12000 through 12066.
690, 690A, and 690B	11001 though 11566.

Compliance: Required within the next 90 calendar days after the effective date of this AD or within 12 calendar months after the last inspection required by AD 91–08–09, whichever occurs later, unless already accomplished, and thereafter as indicated.

To prevent wing structural damage that, if not detected, could progress to the point of failure, accomplish the following:

Note 1: The serial number of the Model 685 airplanes differs from that specified in Twin Commander Service Bulletin (SB) No. 208A, dated November 9, 1992. This AD takes precedence over that service information.

(a) Ultrasonically inspect each area of the wing front spar lower cap for corrosion in accordance with the instructions in Twin Commander SB No. 208A, dated November 9, 1992.

(1) If no corrosion is found, reinspect within the next 36 calendar months.

(2) If corrosion is found that is less than 50 percent of the allowable service limits referenced in Table 1 of Twin Commander SB No. 208A, dated November 9, 1992, reinspect within the next 30 calendar months.

(3) If corrosion is found to be between 50 to 100 percent of the allowable service limits referenced in Table 1 of Twin Commander SB No. 208A, dated November 9, 1992, reinspect within the next 12 calendar months.

(4) If corrosion is found to be greater than 100 percent of the allowable service limits referenced in Table 1 of Twin Commander SB No. 208A, dated November 9, 1992, prior to further flight, replace the wing front spar lower cap in accordance with one of the replacement modifications referenced in paragraph (b) of this AD.

(b) The inspection requirement of this AD may be eliminated by replacing the wing front lower spar cap in accordance with the instructions in one of the following, as applicable:

(1) For Models 685, 690, 690A, and 690B: Twin Commander Custom Kit No. CK–144, Revision A, dated November 12, 1992.

(2) For Models 500S, 500U, 680FL, and 680FL(P): Twin Commander Custom Kit No. CK–145, dated August 21, 1992;

(3) For Models 690, 690A, and 690B: AVIADESIGN, Inc. Supplemental Type Certificate SA5740NM.

(4) For Models 680W and 681: replacement procedures from the manufacturer through the Manager, Seattle Aircraft Certification Office, at the address specified in paragraph (d) of this AD.

(c) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to

operate the airplane to a location where the requirements of this AD can be accomplished.

(d) An alternative method of compliance or adjustment of the initial and repetitive compliance times that provides an equivalent level of safety may be approved by the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region, 1601 Lind Avenue SW., Renton, Washington 98055–4056. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

(e) All persons affected by this directive may obtain copies of the document referred to herein upon request to the Twin Commander Aircraft Corporation, 19003 59th Drive, NE., Arlington, Washington 98223; or may examine this document at the FAA, Central Region, Office of the Assistant Chief Counsel, Room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

(f) This amendment supersedes AD 91–08–09, Amendment 39–6965.

Issued in Kansas City, Missouri, on June 24, 1993.

John R. Colomy,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 93–15364 Filed 6–29–93; 8:45 am]

BILLING CODE 4910–13–U

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14 CFR Part 39

[Docket No. 92–CE–43–AD]

Airworthiness Directives: Twin Commander Aircraft Corporation 500, 600, and 700 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes to supersede Airworthiness Directive (AD) 65–06–01, which currently requires repetitively inspecting the wing front spar lower cap (spar cap) of both the left and right wings on certain Twin Commander Aircraft Corporation (Twin Commander) 500 and 600 series airplanes, and replacing any cracked spar cap. Front spar lower cap cracks have developed on certain Twin Commander model airplanes that are not affected by AD 65–06–01, and the manufacturer has updated the inspection procedures through improved service information. The proposed action would retain the inspections and repair requirements of AD 65–06–01, but would require inspecting in accordance with updated service information and would increase the effectivity to include other model airplanes. The actions specified by the proposed AD are intended to prevent failure of the wing structure caused by cracks in the spar cap.

DATES: Comments must be received on or before September 15, 1993.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92–CE–43–AD, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106. Comments may be inspected at this location between 8 a.m. and 4 p.m., Monday through Friday, holidays excepted.

Service information that applies to the proposed AD may be obtained from the Twin Commander Aircraft Corporation, 19003 59th Drive, NE., Arlington, Washington 98223. This information also may be examined at the Rules Docket at the address above.

FOR FURTHER INFORMATION CONTACT: Mr. Mike Pasion, Aerospace Engineer, FAA, Northwest Mountain Region, 1601 Lind Avenue SW., Renton, Washington 98055–4056; Telephone (206) 227–2594.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA- public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 92–CE–43–AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92–CE–43–AD, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

Discussion

AD 65–06–01, Amendment 39–1053, currently requires repetitively inspecting the spar cap of both the left and right wings at Wing Station (WS) 24 on certain Twin Commander 500 and 600 series airplanes, and replacing any cracked spar cap.

Recently, the FAA has received reports of spar cap cracks on certain Twin Commander model airplanes that are not affected by AD 65–06–01. In addition, Twin Commander has issued Service Bulletin (SB) No. 90C, dated March 30, 1992, and Service Publications revision notice of SB No. 90C, Revision 1, dated June 5, 1992. These service documents provide updated procedures for inspecting the spar caps at WS 24 on certain Twin Commander 500, 600, and 700 series airplanes. In addition, Twin Commander Custom Kit No. CK–145, dated August 21, 1992, specifies procedures for replacing the spar cap on the Models 500S, 500U, 680FL, 680FL(P), 680W, and 681 airplanes.

Of the 1,303 airplanes registered in the United States that would be affected by the proposed AD, 1,025 of these airplanes are currently affected by AD 65–06–01. Of the 307 additional airplanes not affected by AD 65–06–01, 39 have already accomplished the proposed actions. One of these airplanes required spar cap replacement.

After examining the circumstances and reviewing all available information related to the incidents described above including the referenced service information, the FAA has determined that AD action should be taken in order to prevent failure of the wing structure caused by cracks in the spar cap.

Since an unsafe condition has been identified that is likely to exist or develop in other Twin Commander 500 600, and 700 series airplanes of the same type design, the proposed action would supersede AD 65–06–01 with a new AD that would (1) retain the inspection and repair requirements of the spar caps required by AD 65–06–01; (2) incorporate the updated service information into the proposed AD; and (3) increase the effectivity of the current

AD to include other airplane models of the Twin Commander 500, 600, and 700 series. The proposed inspections would be accomplished in accordance with Twin Commander SB No. 90C, dated March 30, 1992, and Twin Commander Service Publications revision notice of SB No. 90C, Revision 1, dated June 5, 1992.

The FAA estimates that 1,303 airplanes in the U.S. registry would be affected by the proposed AD, that it would take approximately 32 (average) workhours per airplane to accomplish the proposed action, and that the average labor rate is approximately $55 an hour. Parts would not be required for 1,054 airplanes, and parts would cost approximately $700 per airplane for 105 airplanes and $1,700 per airplane for 144 airplanes. Based on these figures, the total cost impact of the inspections specified in the proposed AD on U.S. operators is estimated to be $2,611,580 (cost per airplane varies by model).

AD 65–06–01 currently requires the same actions as the proposed AD on 1,025 of 1,303 airplanes. Of the remaining 307 airplanes affected by the proposed AD, the FAA estimates that it would take approximately 18 workhours for 156 airplanes and 100 workhours for 151 airplanes, depending upon the particular model. Parts would not be required for 156 airplanes and would cost approximately $1,700 for 151 airplanes. Based on these figures, the cost impact of the proposed AD upon U.S. operators not already affected by AD 65–06–01 would be approximately $1,241,640 (cost per airplane varies by model).

In addition, if the proposed inspection would reveal cracks in the spar cap, replacing the spar cap would be required at a cost of approximately $100,000, parts and labor included. An airplane affected by the proposed AD could have a compliance cost as low as approximately $990 (18 workhours) or $7,200 (100 workhours) if cracks were not found during the inspection, and as high as approximately $100,990 (inspection using 18 workhours + spar replacement) to $107,200 (inspection using 100 workhours + spar replacement) if the operator replaces the spar cap.

The FAA estimates that the airplanes that would be affected by the proposed AD are utilized an average of approximately 200 hours time-in-service per year, or an average time-interval between the proposed inspections of 2.5 years.

Based on an expected average remaining operating life of 20 years per affected airplane, the annualized compliance cost would be:

- If only repetitively inspecting the spar cap is necessary at 18 workhours: $456 annualized cost (using a 7 percent interest rate);
- If only repetitively inspecting the spar is necessary at 100 workhours: $2,700 annualized cost (using a 7 percent interest rate); or
- If replacing the spar cap is necessary: approximately $9,971 annualized cost (with 18 workhours for inspection and using a 7 percent interest rate) and $10,372 annualized cost (with 100 workhours for inspection and using a 7 percent interest rate) if the spar cap is replaced during the first inspection.

The proposed AD's from Dockets No. 92–CE–26–AD (for Model 500S), No. 92–CE–57–AD (for Models 500, 560A, 560E, 680, 680E, and 720), and No. 92–CE–58–AD (for Models 500S, 500U, 680FL, 680W, and 681), would also affect certain airplanes included in this proposed AD. The compliance costs of these other proposed AD's would add to the cost discussed above. However, replacing the spar cap would only be required once, so the $100,000 replacement cost, if required, would be a one-time action.

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily or disproportionally burdened by government regulations. The RFA requires government agencies to determine whether rules would have a "significant economic impact on a substantial number of small entities," and, in cases where they would, conduct a Regulatory Flexibility Analysis in which alternatives to the rule are considered. FAA Order 2100.14A, Regulatory Flexibility Criteria and Guidance, outlines FAA procedures and criteria for complying with the RFA. Small entities are defined as small businesses and small not-for-profit organizations that are independently owned and operated or airports operated by small governmental jurisdictions.

The 307 U.S.-registered airplanes affected by the proposed AD that are not already affected by AD 65–06–01 are owned according to the following breakdown: 80 by individuals, 3 by U.S. government agencies, 9 by states or local governments, and 215 by other entities. Four entities own more than one of the affected airplanes that are not affected by AD 65–06–01: two own 2 each, and two own 5 each. Three entities own models that would be affected by this proposed AD, as well as AD 65–06–01.

The FAA cannot determine the sizes of all the affected non-individual owner entities nor the relative significance of the costs estimated above. Because of these uncertainties, no cost thresholds for significant economic impact can be reasonably determined. The FAA solicits comments concerning the impact of this proposed AD on small entity owners of affected airplanes. Based on the possibility that this proposed AD could have a significant impact on a substantial number of small entities, the FAA conducted a regulatory flexibility analysis. A copy of this analysis may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES".

The regulations proposed herein would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "major rule" under Executive Order 12291; (2) is significant under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979) because of substantial public interest; and, (3) if promulgated, may have a significant economic impact on a substantial number of small entities. The FAA has conducted an Initial Regulatory Flexibility Determination and Analysis and has considered alternatives to this proposal that could minimize the impact on small entities. A copy of this analysis may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES". After careful consideration, the FAA has determined that the proposed action is the best course to achieve the safety objective of returning the airplane to its original certification level of safety. Alternative actions and views are solicited from interested persons and will be considered by the FAA in the development of the final rule.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 14 CFR part 39 of the Federal Aviation Regulations as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by removing AD 65–06–01, Amendment 39–1053, and by adding the following new airworthiness directive:

Twin Commander Aircraft Corporation: Docket No. 92–CE–43–AD. Supersedes AD 65–06–01, Amendment 39–1053.

Applicability: All serial numbers of the following model airplanes, certificated in any category:

500	500A	500B	500S	500U
520	560	560A	560E	560F
680	680E	680F	680FL(P)	680FL
680T	680V	680W	681	720

Compliance: Required initially within the next 50 hours time-in-service (TIS), unless already accomplished (compliance with superseded AD 65–06–01), or 500 hours after the wing front lower spar cap was replaced in accordance with one of the three modifications referenced in paragraph (b) of this AD, whichever occurs later, and thereafter at intervals not to exceed 500 hours TIS.

Note 1: Although not required, it is recommended that airplanes utilized for survey usage and low altitude usage (below 1,000 fee AGL) reinspect at more periodic intervals described below and specified in Twin Commander Service Publications revision notice of Service Bulletin No. 90C, Revision 1, dated June 5, 1992:

Usage	Hours TIS
Survey	200
Low Altitude	100

To prevent failure of the wing structure caused by cracks in the lower front spar cap, accomplish the following:

(a) Inspect the wing front spar lower cap at left and right Wing Station 24 in accordance with the instructions in the applicable part of Twin Commander SB No. 90C, dated March 30, 1992, and Twin Commander Service Publications revision notice of SB No. 90C, Revision 1, dated June 5, 1992. The applicable part of the referenced service bulletin is outlined below:

(1) Part I: Models 500, 500A, 500B, 500S, 500U, 520, 560, 560A, 560E, 560F, 680, 680E, 680F, 680F(P), and 720 airplanes.

(2) Part II: Models 680FL and 680FL(P) airplanes.

(3) Part III: Models 680FL, 680FL(P), 680T, 680V, 680W, and 681 airplanes.

(b) If cracks are found, prior to further flight, replace the wing front spar lower cap in accordance with one of the following, as applicable:

(1) For Models 500S, 500U, 680FL, 680FL(P), 680W, and 681—the instructions in Twin Commander Custom Kit No. CK–145, dated August 21, 1992; or

(2) For Models 500, 500A, 500B, 520, 560, 560A, 560E, 560F, 680E, 680F, 680T, 680V, 680W, and 720—obtain replacement procedures from the manufacturer through the Manager, Seattle Aircraft Certification Office, at the address specified in paragraph (d) of this AD.

(c) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate the airplane to a location where the requirements of this AD can be accomplished.

(d) An alternative method of compliance or adjustment of the initial and repetitive compliance times that provides an equivalent level of safety may be approved by the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region, 1601 Lind Avenue S.W., Renton, Washington 98055–4056. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

(e) All persons affected by this directive may obtain copies of the document referred to herein upon request to the Twin Commander Aircraft Corporation, 19003 59th Drive, NE., Arlington, Washington 98223; or may examine this document at the FAA, Central Region, Office of the Assistant Chief Counsel, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

(f) This amendment supersedes AD 65–06–01, Amendment 39–1053.

Issued in Kansas City, Missouri, on June 24, 1993.

John R. Colomy,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 93–15359 Filed 6–29–93; 8:45 am]

BILLING CODE 4910–13–U

14 CFR Part 39

[Docket No. 92–CE–26–AD]

Airworthiness Directives: Twin Commander Aircraft Corporation Models 500S and 690B Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes to adopt a new airworthiness directive (AD) that would apply to certain Twin Commander Aircraft Corporation (Twin Commander) Models 500S and 690B airplanes. The proposed action would require removing a sample of the wing front spar lower cap (spar cap) material for examination, and, depending upon the results of that examination, inspecting or replacing the spar cap. The Federal Aviation Administration (FAA) has received reports of cracks caused by stress corrosion in the spar cap of the affected airplanes. The actions specified by the proposed AD are intended to prevent failure of the wing structure caused by cracks in the spar cap.

DATES: Comments must be received on or before September 15, 1993.

ADDRESSES: Submit comments in triplicate to the FAA, Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92–CE–26–AD, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106. Comments may be inspected at this location between 8 a.m. and 4 p.m., Monday through Friday, holidays excepted.

Service information that applies to the proposed AD may be obtained from the Twin Commander Aircraft Corporation, 19003 59th Drive, NE, Arlington, Washington 98223. This information also may be examined at the Rules Docket at the address above.

FOR FURTHER INFORMATION CONTACT: Mr. Mike Pasion, Aerospace Engineer, FAA, Northwest Mountain Region, 1601 Lind Avenue SW., Renton, Washington 98055–4056; Telephone (206) 227–2594.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following

statement is made: "Comments to Docket No. 92–CE–26–AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92–CE–26–AD, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

Discussion

The FAA has received reports of cracks caused by stress corrosion in the spar cap of certain Twin Commander Models 500S and 690B airplanes. Further analysis revealed that the airplanes with stress corrosion cracks in the spar cap contained an unusual spar cap grain structure. The FAA has determined that airplanes with this type of unusual spar cap grain structure are susceptible to stress corrosion cracking when exposed to a corrosive environment. If not detected and corrected, a cracked spar cap could result in failure of the wing structure.

Twin Commander has issued Service Bulletin (SB) No. 215, dated March 3, 1992, which specifies procedures for removing a sample of the spar cap material for metallurgical examination. This examination would compare this material with that of the grain structure found in airplanes with cracks in the spar cap to determine if either spar cap replacement or additional inspection procedures would be necessary. Twin Commander SB No. 215 also specifies that the EMTEC Corporation will verbally notify the airplane owner/operator of the metallurgical inspection results on the next working day following receipt of the coupon. In addition, the following service information specifies procedures for replacing the spar cap, if required:

- Twin Commander Custom Kit No. CK–144, Revision A, dated November 12, 1992, which applies to Twin Commander Model 690B airplanes.
- Twin Commander Custom Kit No. CK–145, dated August 21, 1992, which applies to Twin Commander Model 500S airplanes.
- AVIADESIGN, Inc. Supplemental Type Certificate (STC), dated July 16, 1992, which applies to Twin Commander Model 690B airplanes.

Of the 80 affected airplanes registered in the United States, 34 have already accomplished the proposed inspection in accordance with Twin Commander SB No. 215, dated March 3, 1992. For five of these airplanes, or approximately 15 percent, the examination revealed a grain structure that would require spar cap replacement under the criteria of this proposed AD. These five airplane operators voluntarily replaced the spar cap in order to assure safety of their airplane.

After examining the circumstances and reviewing all available information related to the incidents described above including the referenced service information, the FAA has determined that AD action should be taken to prevent failure of the wing structure caused by cracks in the spar cap.

Since an unsafe condition has been identified that is likely to exist or develop in other Twin Commander Models 500S and 690B airplanes of the same type design that have spar caps manufactured from the same lot of extrusion material, the proposed AD would require removing a sample of the spar cap material for examination, and, depending upon the results of the examination, inspecting or replacing the spar cap. The proposed actions would be accomplished in accordance with the service information described above.

The FAA estimates that 80 airplanes in the U.S. registry would be affected by the proposed AD, that it would take approximately 15 workhours hours per airplane to accomplish the proposed action, and that the average labor rate is approximately $55 an hour. Parts cost approximately $32 per airplane, and the metallurgical inspection would cost approximately $150. Based on these figures, the total cost impact of the proposed AD on U.S. operators is estimated to be $81,360. As previously discussed, 34 of the 80 affected airplanes have already accomplished the proposed actions. This would reduce the cost impact of the proposed AD upon U.S. operators to $56,392. The manufacturer would also incur the cost of the proposed metallurgical examination. The EMTEC Corporation would bill the manufacturer and send the results of the proposed inspection to the airplane owner/operator. This would further reduce the cost impact upon U.S. operators by $8,400 from $56,392 to $48,992.

In addition, if the proposed examination would reveal a fine equi-axed grain structure, replacing the spar cap would be required at a cost of approximately $100,000, parts and labor included. If the proposed examination would reveal an unusual grain structure that was not a fine equi-axed structure, inspecting the spar cap for stress corrosion would be required at a cost of approximately $2,750 (50 workhours at $55 per hour). An airplane affected by the proposed AD could have a compliance cost as low as $1,007 if the spar cap was found acceptable during the metallurgical examination, and as high as approximately $100,857 if the operator replaces the spar cap.

Based on an expected average remaining operating life of 30 years per affected airplane, the annualized compliance cost would be:

- If only a metallurgical examination is necessary: $1,007 − $150 (cost incurred by manufacturer) = $857 × 0.8145 (capital recovery factor at an interest rate of 7 percent) = $70 annualized cost; or
- If replacing the spar cap is necessary: approximately $100,857 × 0.8145 (capital recovery factor at an interest rate of 7 percent) = $8,215 annualized cost.

The proposed AD's from Dockets No. 92–CE–38–AD (for Model 690B), No. 92–CE–43–AD (for Model 500S), and No. 92–CE–58–AD (for both Models 500S and 690B) would also affect certain airplanes included in this proposed AD. The compliance costs of these other proposed AD's would add to the cost discussed above. However, replacing the spar cap would only be required once, so the $100,000 replacement cost, if required, would be a one-time action.

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily or disproportionally burdened by government regulations. The RFA requires government agencies to determine whether rules would have a "significant economic impact on a substantial number of small entities," and, in cases where they would, conduct a Regulatory Flexibility Analysis in which alternatives to the rule are considered. FAA Order 2100.14A, Regulatory Flexibility Criteria and Guidance, outlines FAA procedures and criteria for complying with the RFA. Small entities are defined as small businesses and small not-for-profit organizations that are independently owned and operated or airports operated by small governmental jurisdictions.

Of the 56 U.S.-registered airplanes affected by the proposed AD that have not complied with Twin Commander SB No. 215, dated March 3, 1992, no owner owns more than one. Of these 56 different owners, 50 are businesses, not-for-profit enterprises, or state or local governments; and six are individuals.

The FAA cannot determine the sizes of all the 50 non-individual owner entities nor the relative significance of the costs estimated above. Because of these uncertainties, no cost thresholds for significant economic impact can be reasonably determined. The FAA

solicits comments concerning the impact of this proposed AD on small entity owners of affected airplanes. Based on the possibility that this proposed AD could have a significant impact on a substantial number of small entities, the FAA conducted a regulatory flexibility analysis. A copy of this analysis may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES".

The regulations proposed herein would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "major rule" under Executive Order 12291; (2) is significant under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979) because of substantial public interest; and, (3) if promulgated, may have a significant economic impact on a substantial number of small entities. The FAA has conducted an Initial Regulatory Flexibility Determination and Analysis and has considered alternatives to this proposal that could minimize the impact on small entities. A copy of this analysis may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES". After careful consideration, the FAA has determined that the proposed action is the best course to achieve the safety objective of returning the airplane to its original certification level of safety. Alternative actions and views are solicited from interested persons and will be considered by the FAA in the development of the final rule.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 14 CFR part 39 of the Federal Aviation Regulations as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new AD:

Twin Commander Aircraft Corporation: Docket No. 92–CE–26–AD.

Applicability: The following Model and serial number airplanes, certificated in any category:

Model	Serial No.
500S	3314 through 3323.
690B	11480 through 11566.

Compliance: Required within the next 50 hours time-in-service after the effective date of this AD, unless already accomplished.

To prevent failure of the wing structure caused by stress corrosion cracks in the wing front spar lower cap, accomplish the following:

(a) Remove a sample (coupon) of the wing front spar lower cap in accordance with the INSTRUCTIONS: PART I section (Model 500S airplanes) or the INSTRUCTIONS: PART II section (Models 690B airplanes) of Twin Commander Service Bulletin (SB) No. 215, dated March 3, 1992, as applicable. Prior to further flight, send this coupon for a metallurgical examination to the EMTEC Corporation, 124 East Sheridan, Suite 101, Oklahoma City, Oklahoma 73104, and wait for the results of the examination.

Note 1: The manufacturer will incur the cost of the required metallurgical examination. The EMTEC Corporation will bill the manufacturer and send the results of the inspection to the airplane owner/operator.

(b) If the results of the metallurgical examination required by paragraph (a) of this AD reveal a fine equi-axed grain structure, prior to further flight, replace the wing front spar lower cap in accordance with the instructions in one of the following, as applicable:

(1) For Model 690B, Twin Commander Custom Kit No. CK–144, Revision A, dated November 12, 1992.

(2) For Model 500S, Twin Commander Custom Kit No. CK–145, dated August 21, 1992; or

(3) For Model 690B, AVIADESIGN, Inc. Supplemental Type Certificate SA5740NM.

Note 2: A fine equi-axed grain structure refers to a grain structure that is approximately equal in all three axes and the grains are considerably smaller than what is typical. This is in contrast to the elongated, highly directional grain structure with relatively large grains normally found in extrusions.

(c) If the results of the metallurgical examination required by paragraph (a) of this AD reveal an unusual (but not fine equi-axed) grain structure, prior to further flight, inspect the wing front spar lower cap for stress corrosion cracking in accordance with an inspection procedure approved by the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

(1) Send the results of this inspection in writing to the FAA at the address specified in paragraph (d) of this AD, within 10 days after the inspection or 15 days after the effective date of this AD, whichever occurs later. State whether any cracks or corrosion was found, the location and length of any cracks found, and the location and depth of any corrosion found. (Reporting approved by the Office of Management and Budget under OMB No. 2120–0056).

(2) If any cracks are found, prior to further flight, replace the wing front spar lower cap in accordance with the instructions in one of the following, as applicable:

(i) For Model 690B, Twin Commander Custom Kit No. CK–144, Revision A, dated November 12, 1992.

(ii) For Model 500S, Twin Commander Custom Kit No. CK–145, dated August 21, 1992; or

(iii) For Model 690B, AVIADESIGN, Inc. Supplemental Type Certificate SA5740NM.

(d) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate the airplane to a location where the requirements of this AD can be accomplished.

(e) An alternative method of compliance or adjustment of the compliance time that provides an equivalent level of safety may be approved by the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region, 1601 Lind Avenue S.W., Renton, Washington 98055–4056. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

(f) All persons affected by this directive may obtain copies of the document referred to herein upon request to the Twin Commander Aircraft Corporation, 19003 59th Drive, NE, Arlington, Washington 98223; or may examine this document at the FAA, Central Region, Office of the Assistant Chief Counsel, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

Issued in Kansas City, Missouri, on June 24, 1993.

John R. Colomy,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 93–15363 Filed 6–29–93; 8:45 am]

BILLING CODE 4910–13–U

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14 CFR Part 39

[Docket No. 92–CE–36–AD]

Airworthiness Directives: Twin Commander Aircraft Corporation Models 685, 690, 690A, and 690B Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes to adopt a new airworthiness directive (AD) that would apply to certain Twin Commander Aircraft Corporation (Twin Commander) Models 685, 690, 690A, and 690B airplanes. The proposed action would require modifying the wing ribs at Wing Station (WS) 39, inspecting (one-time) WS 39 for cracks or corrosion, treating any corrosion found, and replacing any cracked wing front spar lower cap (spar cap). The Federal Aviation Administration (FAA) has received several reports of cracked spar caps and cracked and deformed wing ribs at WS 39 on the affected airplanes. The actions specified by the proposed AD are intended to prevent failure of the wing structure caused by a cracked spar cap or cracked or deformed wing rib at WS 39.

DATES: Comments must be received on or before September 15, 1993.

ADDRESSES: Submit comments in triplicate to the FAA, Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92–CE–38–AD, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106. Comments may be inspected at this location between 8 a.m. and 4 p.m., Monday through Friday, holidays excepted.

Service information that applies to the proposed AD may be obtained from the Twin Commander Aircraft Corporation, 19003 59th Drive, NE., Arlington, Washington 98223. This information also may be examined at the Rules Docket at the address above.

FOR FURTHER INFORMATION CONTACT: Mr. Mike Pasion, Aerospace Engineer, FAA, Northwest Mountain Region, 1601 Lind Avenue SW., Renton, Washington 98055–4056; Telephone (206) 227–2594.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 92–CE–38–AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Central Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 92–CE–38–AD, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

Discussion

The FAA has received several reports of cracked spar caps and cracked and deformed wing ribs at WS 39 on certain Twin Commander Models 685, 690, 690A, and 690B airplanes. If not detected and corrected, a cracked spar cap or cracked or deformed wing rib could result in damage to the wing structure to the point of failure.

Twin Commander has issued Service Bulletin (SB) No. 211, Revision 1, dated July 7, 1992, which specifies procedures for (1) inspecting the wing front spar lower cap and lower wing stringer No. 7 at WS 39 for cracks or corrosion; and (2) modifying the wing ribs at WS 39. In addition, the following service information specifies procedures for replacing the spar cap:

- Twin Commander Custom Kit 144, Revision A, dated November 12, 1992, which applies to Models 685, 690, 690A, and 690B airplanes; and
- AVIADESIGN, Inc. Supplemental Type Certificate (STC) SA5740NM, dated July 16, 1992, which applies to Models 690, 690A, and 690B airplanes.

Of the 439 affected airplanes registered in the United States, 89 have already accomplished the proposed inspection in accordance with Twin Commander SB No. 211, Revision 1, dated July 7, 1992. On 2 of these airplanes, the inspection revealed cracks in the spar caps, which required spar cap replacement, and on 34 airplanes, the inspection revealed cracks in the WS 39 rib web, which required wing rib repair.

After examining the circumstances and reviewing all available information related to the incidents described above including the referenced service information, the FAA has determined that AD action should be taken to prevent failure of the wing structure caused by a cracked spar cap or cracked or deformed wing rib.

Since the condition described is likely to exist or develop in other Twin Commander Models 685, 690, 690A, and 690B airplanes of the same type design, the proposed AD would require (1) modifying the wing ribs at WS 39; (2) inspecting (one-time) the main spar lower cap and lower wing stringer No. 7 at WS 39 for cracks or corrosion; and (3) replacing the spar cap if any cracks are found and treating any corrosion found. The proposed actions would be accomplished in accordance with the ACCOMPLISHMENT INSTRUCTIONS section of Twin Commander SB No. 211, Revision 1, dated July 7, 1992. If spar cap replacement is required, the procedures from the following service information would be used: Twin Commander Custom Kit 144, Revision A, dated November 12, 1992; or AVIADESIGN, Inc. STC SA5740NM, dated July 16, 1992, as applicable.

The FAA estimates that 439 airplanes in the U.S. registry would be affected by the proposed AD, that it would take approximately 168 workhours per airplane to accomplish the proposed action, and that the average labor rate is approximately $55 an hour (total labor cost of $9,240 per airplane). Parts cost approximately $1,300 per airplane. Based on these figures, the total cost impact of the proposed AD on U.S. operators is estimated to be $4,627,060 ($10,540 per airplane). As previously discussed, 89 of the 439 affected airplanes have already accomplished the proposed actions. This would reduce the cost impact of the proposed AD upon U.S. operators from $4,627,060 to $3,689,000.

In addition, if the proposed inspection would reveal cracks or corrosion that exceeds a certain amount, replacing the spar cap would be required at a cost of approximately $100,000 per airplane, parts and labor included. An airplane affected by the proposed AD could have a compliance cost as low as approximately $10,540 (labor + parts) if cracks or corrosion is not found during the inspection, and as high as approximately $110,540 (inspection and modification + spar cap replacement) if the operator replaces the spar cap.

Based on an expected average remaining operating life of 30 years per

affected airplane, the annualized compliance cost would be:

• If only inspecting the spar cap and wing rib at WS 39 and modifying at WS 39 are necessary: $10,540 × 0.8145 (capital recovery factor at a 7 percent interest rate) = $858 annualized cost; or

• If replacing the spar cap is necessary: approximately $110,540 × 0.8145 (capital recovery factor at a 7 percent interest rate) = $9,003 annualized cost.

The proposed AD's from Dockets No. 92–CE–26–AD (for Model 690B) and No. 92–CE–58–AD (for Models 685, 690, 690A, and 690B) would also affect certain airplanes included in this proposed AD. The compliance costs of these other proposed AD's would add to the cost discussed above. However, replacing the spar cap would only be required once, so the $100,000 replacement cost, if required, would be a one-time action.

The Regulatory Flexibility Act of 1980 (RFA) was enacted by Congress to ensure that small entities are not unnecessarily or disproportionally burdened by government regulations. The RFA requires government agencies to determine whether rules would have a "significant economic impact on a substantial number of small entities," and, in cases where they would, conduct a Regulatory Flexibility Analysis in which alternatives to the rule are considered. FAA Order 2100.14A, Regulatory Flexibility Criteria and Guidance, outlines FAA procedures and criteria for complying with the RFA. Small entities are defined as small businesses and small not-for-profit organizations that are independently owned and operated or airports operated by small governmental jurisdictions.

The 350 U.S -registered airplanes affected by the proposed AD that have not complied with Twin Commander SB No. 211, Revision 1, dated July 7, 1992, are owned according to the following breakdown: 60 by individuals, 2 by U.S. government agencies, 9 by states or local governments, and 279 by other entities. Twenty entities own more than one of the affected airplanes: one owns 7, one owns 5, another owns 4, and the other seventeen own 2 each.

The FAA cannot determine the sizes of all the affected non-individual owner entities nor the relative significance of the costs estimated above. Because of these uncertainties, no cost thresholds for significant economic impact can be reasonably determined. The FAA solicits comments concerning the impact of this proposed AD on small entity owners of affected airplanes. Based on the possibility that this proposed AD could have a significant impact on a substantial number of small entities, the FAA conducted a regulatory flexibility analysis. A copy of this analysis may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES".

The regulations proposed herein would not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that this action (1) is not a "major rule" under Executive Order 12291; (2) is significant under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979) because of substantial public interest; and, (3) if promulgated, may have a significant economic impact on a substantial number of small entities. The FAA has conducted an Initial Regulatory Flexibility Determination and Analysis and has considered alternatives to this proposal that could minimize the impact on small entities. A copy of this analysis may be obtained by contacting the Rules Docket at the location provided under the caption "ADDRESSES". After careful consideration, the FAA has determined that the proposed action is the best course to achieve the safety objective of returning the airplane to its original certification level of safety. Alternative actions and views are solicited from interested persons and will be considered by the FAA in the development of the final rule.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 14 CFR part 39 of the Federal Aviation Regulations as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new AD:

Twin Commander Aircraft Corporation: Docket No. 92–CE–38–AD.

Applicability: The following Model and serial number airplanes that do not have the wing front spar lower cap replaced in accordance with the procedures of one of the two specified in paragraph (b)(2) of this AD, certificated in any category:

Model	Serial Numbers
685	12000 through 12066
690, 690A, and 690B	11001 through 11566

Note 1: The serial number of the Model 685 airplanes differs from that specified in Twin Commander Service Bulletin (SB) No. 211, Revision 1, dated July 7, 1992. This AD takes precedence over that service information.

Compliance: Required within the next 50 hours time-in-service after the effective date of this AD, unless already accomplished.

To prevent failure of the wing structure caused by a cracked wing front spar lower cap or cracked or deformed wing rib at Wing Station (WS) 39, accomplish the following:

(a) Modify the wing ribs at WS 39 in accordance with Part II of the ACCOMPLISHMENT INSTRUCTIONS section of Twin Commander SB No. 211, Revision 1, dated July 7, 1992.

(b) Eddy current inspect the wing front spar lower cap and lower wing stringer No. 7 at WS 39 for cracks or corrosion in accordance with Part I of the ACCOMPLISHMENT INSTRUCTIONS section of Twin Commander SB No. 211, Revision 1, dated July 7, 1992.

(1) If any corrosion is found that is less than .031 inch in the thin flange or .063 inch in the thick section of the wing front lower spar cap, prior to further flight, treat the wing front spar lower cap area that is corroded with corrosion inhibitor such as LPS–3 or ACF–50.

(2) If any cracks are found or any corrosion is found that is equal to or exceeds .031 inch in the thin flange or .063 inch in the thick section of the wing front spar lower cap, prior to further flight, replace the wing front spar lower cap in accordance with the instructions in one of the following, as applicable:

(i) For Models 685, 690, 690A, and 690B—Twin Commander Custom Kit 144, Revision A, dated November 12, 1992; or

(ii) For Models 690, 690A, and 690B—AVIADESIGN, Inc. Supplemental Type Certificate SA5740NM, dated July 16, 1992.

(c) Special flight permits may be issued in accordance with FAR 21.197 and 21.199 to operate the airplane to a location where the requirements of this AD can be accomplished.

(d) An alternative method of compliance or adjustment of the compliance time that provides an equivalent level of safety may be approved by the Manager, Seattle Aircraft Certification Office, FAA, Northwest

Mountain Region, 1601 Lind Avenue S.W., Renton, Washington 98055–4056. The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle Aircraft Certification Office, FAA, Northwest Mountain Region.

(e) All persons affected by this directive may obtain copies of the document referred to herein upon request to the Twin Commander Aircraft Corporation, 19003 59th Drive, NE., Arlington, Washington 98223; or may examine this document at the FAA, Central Region, Office of the Assistant Chief Counsel, room 1558, 601 E. 12th Street, Kansas City, Missouri 64106.

Issued in Kansas City, Missouri, on June 24, 1993.

John R. Colomy,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. 93–15362 Filed 6–29–93; 8:45 am]

BILLING CODE 4910-13-U

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR PARTS 606 AND 610

[DOCKET NO. 91N–0152]

RIN 0905–AC90

Current Good Manufacturing Practices for Blood and Blood Components; Notification of Consignees Receiving Blood and Blood Components at Increased Risk for Transmitting HIV Infection

AGENCY: Food and Drug Administration, HHS.

ACTION: Proposed rule.

SUMMARY: The Food and Drug Administration (FDA) is proposing to amend the biologics regulations to require that blood establishments prepare and follow written procedures when the blood establishments have collected blood and blood components that are potentially contaminated with human immunodeficiency virus (HIV). This proposal would require that when a donor who previously donated blood subsequently is tested for HIV in accordance with 21 CFR 610.45, and tests repeatably reactive for antibody to HIV, a blood establishment shall perform more specific testing using a licensed test, and notify consignees who received such blood so that appropriate action is taken. Blood establishments and consignees would also be required to quarantine previously collected blood and blood components from such donors. FDA is also proposing that certain transfusion services take steps to notify transfusion recipients. FDA is proposing these rules to help ensure the continued safety of the blood supply, to help ensure that information is provided to users of blood and blood components, and to help ensure that transfusion recipients of potentially contaminated blood and blood components may be notified as appropriate. These procedures are commonly referred to as "look-back" rules.

DATES: Written comments by August 30, 1993. FDA proposes that any final rule based on this proposal be effective 60 days after date of publication of the final rule.

ADDRESSES: Written comments to the Dockets Management Branch (HFA–205), Food and Drug Administration, rm. 1–23, 12420 Parklawn Dr., Rockville, MD 20857.

FOR FURTHER INFORMATION CONTACT: Paula McKeever, Food and Drug Administration, Center for Biologics Evaluation and Research (HFM–635), 1401 Rockville Pike, Rockville, MD 20859–1448, 301–295–9074.

SUPPLEMENTARY INFORMATION:

I. Introduction

Part 606 (21 CFR part 606) contains current good manufacturing practices (CGMP's) for blood establishments designed to help ensure the continued safety, purity, potency, and efficacy of blood and blood components. The regulations in this part apply to both licensed and unlicensed blood establishments. Blood establishments include human blood and plasma donor centers, blood banks, transfusion services, other blood product manufacturers and independent laboratories that engage in quality control and testing for registered blood product establishments (21 CFR 607.3(c)). Consignees are included in the definition of blood establishments. In addition, part 610 (21 CFR part 610) provides rules and testing standards generally applicable to biological products, including blood and blood components.

HIV is the virus that causes acquired immunodeficiency syndrome (AIDS), a communicable disease that can be transmitted through blood and blood components contaminated with HIV. FDA has implemented an extensive system of additional testing and donor screening procedures, performed before, during, and after donation takes place, to help prevent the transfusion of blood components that are potentially contaminated with HIV. Beginning in 1983, the Public Health Service (PHS) issued recommendations that individuals who engaged in high risk practices for AIDS voluntarily refrain from donating blood or plasma. See Morbidity and Mortality Weekly Report (MMWR), 32:101–103, 1983. Beginning in 1985, FDA licensed kits to test for antibody to HIV, and blood banks began testing units of blood and blood components for antibody to HIV (ref. 1). Since 1988, FDA has required that units of blood and blood components be tested for antibody to HIV using licensed tests (21 CFR 610.45). Since 1986, confidential unit exclusion and donor history interviews have become a routine part of the donation procedure, so that donors may indicate confidentially if their units should be excluded from the blood supply. FDA's recommendations regarding these procedures have been revised periodically as additional information regarding the epidemiology of HIV has become available. The most recent recommendation was issued to all registered blood establishments on December 5, 1990 (ref. 2). These procedures are designed to help ensure the continued safety of the blood supply.

As a result of this effort, the possibility of transmitting HIV through blood transfusion has decreased significantly. Within the last 3 years, the risk of HIV transmission via blood transfusion has been estimated to be between 1 in 38,000 and 1 in 153,000.[1] However, it remains possible, despite the best practices of a blood establishment, that a person might donate blood early in infection, during the "window" period, when the HIV antibody test remains negative but HIV is present in the person's blood. Accordingly, a recipient of such a donation may not know that he or she may have become infected with HIV. If the same donor attempts to donate blood at a later date, the test for antibody to HIV then may be repeatably reactive. FDA and the Health Care Financing Administration (HCFA) are proposing steps designed to further protect the blood supply and to notify recipients of the possibility that they

[1] A 1988 Centers for Disease Control report based on a theoretical model estimated the risk of transfusion in a worst-case scenario at 1:36,000. A 1989 report by the American Red Cross, based on semi-empirical data, estimated the risk at 1:153,000. Other studies estimated the risk between 1:50,000 and 1:68,000. Busch, M. et al., New England Journal of Medicine, 1991, 325:1–5; Cohen, N. D. et al., New England Journal of Medicine, 1989, 320:1172–1176; Kleinman et al., Transfusion, 1988, 28:499–501.

may have received blood products contaminated with HIV. FDA's proposal, along with HCFA's proposal published elsewhere in this **Federal Register**, would require facilities involved in the collection, processing, and administration of blood to quarantine certain blood and blood components and to inform the consignee, and, as appropriate, the recipient's attending physician or the recipient, of the possibility that blood previously used for transfusion was obtained from a donor who subsequently tested repeatably reactive for antibody to HIV. These rules would result in transfusion recipients receiving information so they can be tested for evidence of HIV infection, receive early treatment, if indicated, and take appropriate precautions to prevent the further spread of the virus.

Under certain circumstances, PHS has already encouraged direct notification of transfusion recipients at increased risk for HIV infection. In the MMWR of March 20, 1987, PHS recommended testing and counseling for individuals who received multiple transfusions of unscreened blood in areas with a high incidence of AIDS. A number of blood centers and transfusion services have attempted direct notification by letter of all patients who received transfusions between 1977 and 1985. Data collected from these efforts indicate that sweeping notification of a group of recipients is extremely resource-intensive, and particularly where recipients are unaware of donors' risk factors, recipients are not motivated to respond and the effort is not very effective.[2] A 1988 PHS mailing of AIDS information to all the nation's households included a notification of the need for testing for antibody to HIV for patients who received a transfusion between the years 1977 and 1986. MMWR, 37:261–269, 1988. FDA believes that these proposed rules, in conjunction with those being proposed by HCFA elsewhere in this **Federal Register**, will provide a more efficient means of notification.[3]

II. Coordination Between HHS Agencies

A. Memorandum of Understanding

In a memorandum of understanding (MOU), FDA and HCFA agreed to coordinate the inspections of blood banks and transfusion services to minimize duplication of effort and to reduce the burden on affected facilities. In the MOU, it was estimated that HCFA would be responsible for inspecting and surveying approximately 3,000 transfusion services. FDA continues to conduct the inspections of establishments where activities include more than the performance of compatibility testing. (See 49 FR 34448 (August 31, 1984), 21 CFR 607.65.)

B. Locating Blood Donors

The Social Security Administration operates a Blood Donor Locater Service (BDLS) to enable States and authorized blood donation facilities to notify blood donors whose donations indicate that they are or may be infected with HIV. Section 205(c)(2)(D) of the Social Security Act (42 U.S.C. 405(c)(2)(D)) permits States to require a blood donor to furnish his or her social security number (SSN) to a State agency or to an authorized blood donation facility. With the SSN, an authorized blood donation facility may request the State to contact the BDLS to obtain the donor's mailing address. The State agency may also make a request on its own behalf for this information to the BDLS.

C. Summary of the Proposed Rules of HCFA and FDA

Under proposed §§ 606.100(b)(19) and 610.46(a), an establishment would be required to quarantine, and to notify the consignees regarding the need to quarantine, certain blood and blood components previously collected from a donor who subsequently tests repeatably reactive for antibody to HIV. The proposed rule, would also require consignees to quarantine such products. Under proposed § 610.46(b), in situations in which blood establishments distributed such units, blood establishments would be required to test by a licensed, more specific test, the donor's blood sample from the current donation that tested repeatably reactive. Blood establishments would be required to notify the consignees of the results of the licensed, more specific test. If the licensed, more specific test result is negative, the units from prior collections are regarded as negative for antibody to HIV, and the prior collections, which previously tested negative, may be released from quarantine under proposed § 610.46(c). If the licensed, more specific test result is positive or indeterminate, the units from prior collections may not be released from quarantine. The blood establishment would be required to dispose of extant products located at the establishment and to notify the consignees of the test result and of the need for the appropriate disposal of extant products. The general requirements for disposal of unsuitable products would apply to the specific situation where a product does not qualify for release from quarantine under this proposal. FDA has provided guidance to establishments for disposal of unsuitable products (ref. 3). If the licensed, more specific test result is positive, the blood establishment would be required to report the positive result to consignees that received units from prior collection, so that steps are taken to initiate notification of the attending physicians of transfusion recipients.

Under proposed § 606.160(b)(1)(vii), FDA would amend its biologics regulations to require blood establishments to prepare and maintain records so that previous donations from a donor could be identified, and to keep records of the look-back process. As with other records related to recipient health and donor suitability, the confidentiality of such donor and recipient records should be protected, consistent with evolved practices, standard operating procedures (SOP's), generally-recognized policies and expectations, and local, State, and Federal requirements.

Under HCFA's proposed rule, issued elsewhere in this **Federal Register**, transfusion services or other blood establishments inspected by HCFA that are notified by a blood establishment that a donor of blood products shipped to them for transfusion subsequently has tested positive by a licensed, more specific test for antibody to HIV would be required to notify the recipient's attending physician, the recipient, or other authorized person, as appropriate. HCFA has proposed to require the transfusion service to have a written agreement with each blood supplier documenting these procedures. We are especially interested in receiving comments on whether this proposed requirement would be more appropriately implemented as part of the FDA requirements applicable to blood banks or in the manner proposed, as part of a medicare hospital standard. Under FDA's proposed rule, transfusion services inspected by FDA that are so notified also would be required to notify the recipient's attending physician, the recipient, or other authorized person as appropriate.

The agencies are taking these actions to address blood safety issues affecting transfusion recipients who may be at increased risk for HIV infection, and to restrict the use of potentially infectious blood and blood components in the

[2] See e.g., Busch, M.P. et al., "Risk of Human Immunodeficiency Virus (HIV) Transmission by Blood Transfusion Before the Implementation of HIV–1 Antibody Screening," Transfusion, 1991, 31:4–12.

[3] Ibid. See also Busch, M.P. et al., "Is Lookback Doing the Job?" (letter), Transfusion, 27:503–504, 1987; Sampson et al., "Identification of HIV Infection in Transfusion Recipients: The utility of cross-referencing previous donor records with AIDS case reports," Transfusion, 30:214–218, 1990.

manufacture of injectable and noninjectable blood products.

III. FDA'S Proposed Rule

Under the biologics licensing and quarantine provisions of the Public Health Service Act (42 U.S.C. 262–264) and the drug, device, and the general administrative provisions of the Federal Food, Drug, and Cosmetic Act (the act) (21 U.S.C. 351–353, 355–360, 371–374), FDA has the authority to promulgate regulations to protect the public from unsafe or ineffective biological products and to promulgate regulations necessary to prevent the transmission of communicable diseases into the United States or from one State to another.

Under these statutory authorities, FDA currently requires that each donation of blood intended for transfusion, or for use in preparing a product, be tested and found negative for antibody to HIV under § 610.45 (21 CFR 610.45). Existing regulations already restrict the use, for transfusion or further manufacture, of a donation testing repeatably reactive. Although current screening tests for antibody to HIV are very sensitive, antibody testing may not identify all blood units capable of transmitting infection. For this reason, many blood establishments have instituted special precautions when blood has been collected and the donor later tests repeatably reactive for antibody to HIV. These procedures involve determining the suitability of prior collections of blood and blood components from that donor. These procedures also may involve notifying consignees that have received prior collections from the donor so consignees may arrange to determine the suitability of such units, and, if appropriate, may take steps so that recipients of transfusions of those units are notified. These procedures are generally referred to as "look-back."

This proposal would require blood establishments, including consignees, to take certain actions when donors subsequently show evidence of antibody to HIV. These actions include quarantining units from prior collections pending a determination of the suitability of the units, notifying consignees of such units of the need for quarantine, and maintaining records regarding the quarantine and notification. Below is a discussion of the specific provisions of the proposed rules, beginning with a discussion of certain terms used in the rules.

A. The Term "HIV"

Throughout the proposed rule, FDA uses the term "HIV" to refer to HIV–1, the principal virus associated with AIDS in the United States, and HIV–2, a closely related virus, also associated with AIDS. HIV–2 has been found in other parts of the world, but is found only very rarely in the United States. A licensed test is also available that can detect antibody to HIV–2. The licensed test for antibody to HIV–1 may give repeatably reactive results based on cross-reactivity from antibody to HIV–2, but the current HIV–1 tests do not distinguish between antibody to HIV–1 and antibody to HIV–2. FDA is using the more general term "HIV" to require quarantine and notification regardless of whether the establishment has determined that the antibody detected is to HIV–1 or HIV–2.

B. The Term "Repeatably Reactive for Antibody to HIV"

Based on FDA's extensive experience with blood establishments, including annual inspections, FDA believes that the current practice of blood establishments is to screen blood donations with licensed Enzyme Immunoassay (EIA) tests, which detect antibody to HIV. The preamble describes how look-back is to be implemented when an establishment uses licensed EIA tests for donor screening. EIA test results are either negative or repeatably reactive. If the results are negative, the blood and blood components are suitable for use. If the EIA test result is repeatably reactive, then the product is not suitable for use. Establishments then perform licensed Western Blot testing for the purpose of determining the suitability of previously collected units, or for the purpose of counseling the donor.

Although establishments currently use licensed EIA tests in accordance with 21 CFR 610.45(a)(1), other tests may be approved for use under 21 CFR 610.45(a)(2). It is possible that as technology advances, and if other tests become practical for use as screening tests, establishments may seek FDA approval of other tests for donor screening purposes. This proposed rule, like 21 CFR 610.45, is flexible enough to provide for the use of other approved screening tests whether or not they detect HIV antibody. As other tests are approved for screening purposes, FDA will provide guidance on the look-back program using those test technologies.

C. The Term "Promptly"

In proposed § 610.46(a), FDA is proposing that specified actions be performed "promptly" rather than specifying time limits for performing the various steps of the look-back program. For an establishment with existing records on a computerized database, checking records of previous donations to identify the date products were collected, the date the last negative screening test was performed, and to whom the products were distributed often can be performed concurrently with the recording of the donor's repeatably reactive test results. However, for an establishment without this capability, the determination may take longer. Likewise, for a facility that performs licensed, more specific tests on site, the test results may be available more quickly than for a facility that sends samples for testing to an outside laboratory. FDA is using the general term "promptly" in order to recognize that differences will exist. However, within 2 weeks after the donor's repeatably reactive test, the establishment should have the results of the more specific testing, and FDA is proposing a 2-week limit in which the establishment would be required to perform the test and notify consignees of the results. As discussed later in this preamble, the written SOP's of each blood establishment should address the time limits for performing each significant step of its look-back program If the blood establishment is unable to meet the time limits prescribed in the SOP's for a specific task, the reasons for that deviation should be described in the establishment's records.

It is within the blood establishment's customary practices to perform testing, to arrange for appropriate action based on test results, and to maintain contact with consignees regarding, among other things, the quality of the product and services. The agency can estimate reasonable time limits based on this experience, and such time limits can be imposed for these activities. However, FDA is not proposing time limits for the notification of recipients but is relying on HCFA's expertise in the area of hospital practice. Consistent with HCFA's proposed rule, published elsewhere in this issue of the **Federal Register**, FDA believes that the hospital's notification effort should consist of, at the minimum, several attempts by phone or in writing to reach the attending physician or the recipient. The hospital's notification effort should begin immediately after receiving word from the blood bank, and should be completed 8 weeks later. FDA would require that the hospital document the attempts to notify the recipient and indicate whether the recipient was located. FDA specifically invites public comment on the sufficiency of this level of effort. The agency believes that the chain of notification about the potentially infectious blood and/or

blood products should be from the hospital to the recipient's attending physician (physician of record), and that only in rare situations would the recipient receive this notification from the hospital. FDA invites comment as to whether a regulation describing the mechanics of this notification is necessary and whether additional explanation is necessary to identify when the hospital should directly notify the recipient. The agency believes this proposed rule is self-explanatory, but that a stated timeframe may be necessary to determine when the recipient should be notified by the hospital if the attending physician cannot be reached by telephone.

D. Amendments to Part 606—Current Good Manufacturing Practice for Blood and Blood Components

Under 21 CFR part 606, FDA provides CGMP regulations for licensed and unlicensed blood establishments to help ensure the continued safety, purity, potency, and efficacy of blood and blood components. To implement the look-back program, FDA proposes to amend the CGMP regulations regarding written SOP's and records.

1. Standard Operating Procedures

FDA proposes adding new paragraph (b)(19) to § 606.100. Proposed § 606.100(b)(19) would require that establishments have written procedures to look-back at prior donations of blood and blood products from a donor who has previously donated blood and subsequently tests repeatably reactive for antibody to HIV when tested in accordance with § 610.45. The written procedures would be required to describe in detail how obligations under this section would be met. The written SOP's would be required to include procedures to quarantine in-house blood and blood components, including Source Plasma and Recovered Plasma, and products intended for research, whether intended for transfusion or further manufacture, that were obtained from such donors. Consignees are blood establishments, and for clarity the proposed rule provides a separate, express provision requiring consignees to quarantine such products. The written SOP's also would be required to include procedures to notify consignees regarding the need to quarantine such products; procedures to determine the suitability for release of such products held in quarantine; procedures to notify consignees of blood and blood components from such donors of the results of the suitability determination; and procedures to determine the proper disposition of the products as appropriate. The written procedures should include timeframes for meeting each obligation; they should also include a list of persons authorized to provide and receive notification.

2. Records

FDA proposes adding new paragraphs (b)(1)(vii) and (b)(1)(viii) to § 606.160. Proposed § 606.160(b)(1)(vii) would require that an establishment's records be organized in a manner to readily relate a donor with the unit number of each donation from that donor. Many establishments already organize records in this manner to implement existing programs regarding look-back, donor deferrals, recruitment of previous donors, record transfer to computer data banks, and recordkeeping efficiency. FDA is aware, however, that some blood establishments, using their current recordkeeping systems, are unable to readily determine the complete history of donations, including the unit numbers of the blood collected, from a specific donor. Some blood establishments, particularly small blood establishments, have organized information on blood donors by other systems, such as by the date of donation, which would not readily accommodate the proposed look-back procedures. FDA does not propose to require that blood establishments reorder and rerecord all previous information, but proposes that new information be entered on recordkeeping systems that are suitably modified by the proposed effective date. Upon the effective date of the final rule, to the extent that prior recordkeeping systems exist that relate a donor with each previous donation, FDA proposes that an establishment would be required to review its records to identify units for quarantine and consignee notification under proposed § 606.160(b)(1)(vii). Beginning with the effective date of the final rule, FDA proposes to require that donor information be recorded in a manner to readily relate a donor with the unit number of each donation from that donor.

Under proposed § 606.160(b)(1)(viii), FDA would require that records be kept documenting the quarantine, consignee notification, testing, and disposition of products required under proposed § 610.46 (a) and (b). FDA is not proposing at this time specific requirements regarding methods for notification, such as whether notification must be performed in writing by facsimile or overnight mail, certified mail, regular mail, or orally by telephone. The means of notification should be set under each blood establishment's written SOP. However, regarding the information included about the notification, for both initial and followup contacts, the proposed notification records should identify all persons who gave and received the notification, the dates and times of notification, the types and unit numbers of all blood and blood components which are the subject of the notification, the dates that the donor tested repeatably reactive, the dates and results of more specific testing, and other information regarding the notification event. As with similar records related to recipient health and donor suitability, strict confidentiality of these records should be maintained.

E. Amendments to Part 610—General Biological Products Standards

Under proposed § 610.46(a), when a blood donor tests repeatably reactive for antibody to HIV, an establishment would be required to quarantine units collected from this donor within the past 5 years if intended for transfusion, and to quarantine units collected within the past 6 months if intended for further manufacture. The blood establishment would be required to promptly notify consignees who would also be required to quarantine such products.

Under proposed § 610.46(b), if a blood establishment distributed such units, the blood establishment would be required to perform a licensed, more specific test for antibody to HIV. Within 2 weeks after the donor's repeatably reactive test, the blood establishment would be required to notify the consignees of the results of the licensed, more specific test: Whether positive, indeterminate, negative, or unavailable. Proposed § 610.46(c) provides specific circumstances for the release of products from quarantine based on the evaluation of the test result. FDA intends that these proposed requirements apply to blood and blood components intended for transfusion or further manufacture, including blood and blood components intended for research use. Thus, establishments would be required to meet the standards for all blood and blood components intended for transfusion or for further manufacture, as applicable.

Under existing § 610.45, blood and blood components, including plasma, that are repeatably reactive to a test for antibody to HIV are subject to restrictions on use, regardless of the results of subsequent testing. FDA does not propose that the units testing repeatably reactive would be releasable if the results of more specific testing are negative. The units that would be releasable under this proposed rule are only those blood and blood components

from previous donations that have been tested and found negative for antibody to HIV; FDA does not propose to amend the restrictions in § 610.45. Products collected at the time the donor tests repeatably reactive must not be reissued for any purpose, except as provided in § 610.45(c). Additionally, FDA does not propose to change the recommendations restricting the reentry of donors whose screening test results are repeatably reactive. The current procedures for donor reentry were provided by FDA in its memorandum to all blood establishments of December 5, 1990 (Ref. 2). FDA proposes to amend § 610.45 for clarity, to refer to the requirements of §§ 610.46 and 610.47. HCFA regulations expressly reference § 610.45, therefore, an express referral in § 610.45 to §§ 610.46 and 610.47 will facilitate HCFA-regulated facilities in recognizing all requirements related to the test for antibody to HIV.

1. Quarantine and Notification Procedure

Proposed § 610.46 would require quarantine of previously collected products and notification of consignees in specified circumstances. FDA proposes that blood establishments be required to follow, at a minimum, the precautions listed below, and that they be performed promptly when a previous donor of blood and blood components subsequently tests repeatably reactive for antibody to HIV:

a. Quarantine and notification of consignees for blood and blood components intended for transfusion. Under § 610.46(a), FDA proposes to require blood establishments to quarantine previously collected blood and blood components intended for transfusion that have been collected during the time period from the present extending back 5 years, or, if there is a record of the donor's last licensed negative test for antibody to HIV which had been performed in accordance with § 610.45, then back to the time 12 months before such test. Proposed § 610.46(a) would also require blood establishments to notify consignees so that such products are appropriately quarantined.

b. Quarantine and notification of consignees for blood and blood components intended for further manufacture. Also under § 610.46(a), FDA proposes to require blood establishments to identify and quarantine all units in inventory intended for further manufacture, including Source Plasma and Recovered Plasma, that have been collected during the time period from the present extending back to the time 6 months prior to the repeatably reactive test. Proposed § 610.46(a) would also require blood establishments to notify consignees regarding the need to quarantine unpooled units that were collected within the past 6 months.

Blood, blood components, and Source Plasma intended for further manufacture are pooled quickly and are unlikely to be available after 6 months. In addition, they are subjected to further manufacturing steps in making various final products. The proposed rule would require collecting establishments to quarantine products intended for further manufacture that have been pooled by the establishment but not yet shipped to a consignee. These pools are more often small and their quarantine provides an additional margin of safety without negatively affecting the availability of the blood product. FDA also proposes a requirement to notify consignees so they may quarantine products intended for manufacture. FDA is not proposing to require consignees to quarantine products pooled by the consignee as a preliminary step for further manufacture, because these are often large pools, comprising a thousand units or more, and their diversion could have serious consequences on the availability of blood products.

In addition, products manufactured from blood and blood components, including plasma, undergo further manufacturing steps so the final products are treated in such a manner to prevent the transmission of HIV. Some method to inactivate viral contaminants is used in the manufacture of all such products. The most common practice for treating blood and blood products is heat inactivation treatment. FDA thoroughly reviews the methods proposed by manufacturers in establishment and product license applications and amendments and evaluates the effectiveness of these methods before approving any methods. FDA also reviews epidemiologic evidence, which has also established that these treatment processes reduce the risk of HIV infection from these products.

2. Testing and Notification of Consignees

Proposed § 610.46(b) would apply in situations involving a donor who subsequently tests repeatedly reactive, and would require that for blood and blood components intended for transfusion or for further manufacture which have been distributed, a blood establishment must test the donor's blood for HIV by a licensed, more specific test. This more specific test would be performed on blood that is collected at the time the donor first tests repeatably reactive for antibody to HIV; FDA is not proposing to require more specific testing on each unit in quarantine. Blood establishments that have distributed prior units would be required to notify the consignees of the results of the more specific test within 2 weeks from the date of the repeatably reactive test. The consignee would rely on the results of the licensed, more specific test to determine whether to notify physicians of the recipients of prior transfusions, in accordance with HCFA's and FDA's proposed rules, as well as to determine the disposition of the products in quarantine.

3. Release From Quarantine

Under proposed § 610.46(c), units from previous donations would be unsuitable for release from quarantine unless the result of the licensed, more specific test for antibody to HIV is negative. If the result of the licensed, more specific test is positive, indeterminate, or not available within 2 weeks, then the units must not be released from quarantine. Instead, the blood establishment is responsible for notifying the consignee of the results so that the units may be appropriately disposed.

FDA notes that the procedures described above have two related but distinct objectives. First, the proposed procedures will help ensure that blood and blood components that may be contaminated with HIV are quarantined. This objective would be met by following FDA's proposed requirements. The second objective involves a joint effort between FDA and HCFA. FDA is proposing regulations so that users of blood and blood components intended for transfusion are provided with adequate information so that, in compliance with HCFA's and FDA's proposed regulations, they may notify the transfusion recipient's attending physician that the blood or blood components may have been contaminated with HIV.

4. Transfusion Services; Quarantine and Notification Requirements

Elsewhere in this issue of the **Federal Register**, HCFA has proposed to require recipient notification for all hospitals that participate in the Medicare program. HCFA's proposal does not extend to hospitals and transfusion services that do not participate in the Medicare program, so nonparticipating establishments will not be subject to HCFA's proposed rule. Because of the significant public health issue associated with the look-back program, including the need to notify transfusion

recipients so they can be tested, obtain early treatment if needed, and prevent the further spread of this disease, FDA is proposing § 610.47, which would require all registered establishments that do not participate in the Medicare program to take steps to notify transfusion recipients. Proposed § 610.47 would also require such facilities to take steps to quarantine units collected from a donor who subsequently tests repeatably reactive for antibody to HIV.

F. Other Reliable Indications That Donors Have Evidence of HIV

As proposed, the look-back procedures would be required only when indicated by the results of testing performed by a blood establishment. A blood establishment may receive information from other sources, such as a State health department, a physician, friends or relatives of a donor, or other blood establishments, which indicate that a donor may be infected with HIV. The availability of this information varies from State to State because of differing State laws regarding the type, detail, and restrictions on the use of this information, and because of confidentiality issues. Because a blood establishment may not receive such information consistently, nor may it be able to readily evaluate the reliability of all types of information, at this time FDA is not proposing additional circumstances under which look-back would be required. FDA invites comment on whether there are additional circumstances when a blood establishment can reliably and consistently receive information that should result in the required initiation of the look-back procedures included in this proposed rule. FDA encourages blood establishments to initiate look-back procedures whenever they have received reliable information that a donor is infected with HIV.

G. Limitations on Temporal Requirements for Look-back

FDA is proposing temporal limitations on the requirement for look-back. If at the time the donor's blood is first identified as being repeatably reactive, it is known when the most recent negative screening test was performed in accordance with § 610.45, units collected more than 12 months prior to the date of the last negative screening test need not be quarantined. If the date of the most recent negative screening test is not known, units collected previously would be quarantined until the date can be determined. As discussed in subparagraph 2 below, units collected more than 5 years prior to the date of the repeatably reactive test need not be quarantined. FDA is proposing that units intended for further manufacture need not be held in quarantine if collected more than 6 months prior to the donor's current repeatably reactive test. The blood establishment would also quarantine these previously collected units until the dates of collection and previous negative test are determined.

1. Twelve Months Before the Date of the Repeatably Reactive Test

Previous donors of blood and blood components intended for transfusion or further manufacture who have donated since licensed testing became available, approximately in mid-1985, should have tested negative for anti-HIV by a licensed test at the prior donation. In rare cases, the donor may have tested negative by that previous test while in the "window" period, a time period usually less than 6 months during which time the donor tests negative for HIV but may be infectious for the virus. Based on experience, current estimates predict with approximately 95 percent confidence that in all cases of HIV infection, the person will test positive for anti-HIV by a licensed test within 6 months from the date of infection (ref. 2). To provide an additional margin of safety, FDA has extended the period for look-back to 12 months, to more closely approximate a 99 percent confidence interval.[4] Accordingly, FDA has constructed the proposed look-back procedures so that virtually all donations collected during the "window" period are appropriately included.

2. Five Years From the Date of the Repeatably Reactive Test

In accordance with Federal requirements, most records related to blood donors and transfusion recipients are kept for 5 years. In rare cases, the donor's last negative screening test may have occurred more than 4 years before the repeatably reactive test result, so that the period 12 months prior to the donor's last negative screening test would cover a time period for which records may no longer be available. Under this proposal, look-back will not be required to continue beyond 5 years prior to the date of the donor's repeatably reactive test for anti-HIV for several reasons:

(1) After 5 years, hospitals are not required to keep records identifying transfusion recipients, so such transfusions may not be traceable;

(2) High mortality exists among transfusion recipients for reasons not directly related to the blood transfusion (because transfusion recipients are often elderly and conditions requiring transfusion are often life-threatening); the majority of recipients will not survive beyond 5 years so attempts to notify these recipients would be inefficient and ineffective;

(3) If HIV infection were present in a recipient's blood for 5 years, the recipient may be aware of the condition independently without need for notification; and

(4) The program described in the MMWR of March 20, 1987, and in the PHS mailing to every household in 1988, included a notification of the need for followup testing for recipients of transfusion before mid-1985.

3. Six Months After Collection of Products Intended for Further Manufacture

Past experience has shown that blood, blood components, and Source Plasma intended for further manufacture are pooled quickly and subjected to further manufacturing steps in making various final products. Accordingly, 6 months after collection, such units are rarely, if ever, recoverable as single units or small pools of units. Because the final products intended for administration to humans are treated in such a manner to prevent the transmission of HIV, as discussed above, and because after 6 months products from individual donors cannot be readily isolated and quarantined, a 6 month-period is appropriate to help ensure the continued safety of the blood supply while helping to ensure the availability of safe and effective products.

IV. Environmental Impact

The agency has determined under 21 CFR 25.24(c)(10) that this proposed action is of a type that does not individually or cumulatively have a significant effect on the human environment. Therefore, neither an environmental assessment nor an environmental impact statement is required.

V. Economic Assesement

The agency has examined the economic impact of this proposed rule and has determined that it does not require either a regulatory impact analysis, as specified in Executive Order 12291, or a regulatory flexibility analysis, as specified in the Regulatory Flexibility Act (Pub. L. 96–354). The benefits of this rule to the public are

[4] See Horsburg, C. R., Jr., et al., "Estimated Duration of HIV Infection Before Detection of Antibody," *The Lancet*, 16:637–40, 1989.

twofold. The primary purpose of the look-back requirement is to reduce the risk of HIV infection through transfusion of blood and blood components during the window period, at which time antibodies to the HIV virus in the donor are not detectable through normal screening procedure. Notification of consignees to quarantine potentially infected components, until confirmatory testing is completed, will prevent any further infection of the public. Once a donor has converted to HIV positive, all recipients of previously donated components during the potential window period can be notified, tested, and treated before they begin to exhibit symptoms of infection. Spreading of the virus can be retarded through early detection made possible by this rule.

Most blood establishments already participate in a look-back program. Ninety-five percent of blood establishments, collecting 98 percent of the nation's blood supply, already participate in a look-back notification of their customers concerning units of blood previously shipped that may be at increased risk of transmitting HIV because the donor was later found to be repeatably reactive. Thus, requirements for written procedures and records of notification that apply to blood establishments regulated by FDA, and that relate only to blood units taken from donors who later were found to be repeatably reactive, would affect about 5 percent of blood establishments; the remaining 95 percent of blood establishments may need to make minor adjustments in their procedures which FDA believes should only have a minimal impact. FDA expects the total annualized cost of this proposed rule on blood establishments to be $2,469,950. FDA anticipates only a small number of cases per year which can be traced to potentially infectious blood and therefore the need to notify transfusion recipients will arise infrequently. FDA has determined that the proposed rule is not a major rule as defined in Executive Order 12291. Further, FDA certifies that the proposed rule will not have a significant impact on a substantial number of small business entities, as defined in the Regulatory Flexibility Act.

VI. Paperwork Reduction Act of 1980

This proposed rule contains information collections which are subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1980. The title, description, and respondent description of the information collection are shown below with an estimate of the annual reporting and recordkeeping burden. Included in the estimate is the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

Title: Current Good Manufacturing Practices for Blood and Blood Components; Notification of Consignees Receiving Blood and Blood Components at Increased Risk for Transmitting HIV Infection.

Description: This proposed rule would require that blood establishments prepare and follow written procedures when the blood establishments have collected blood and blood components that are potentially contaminated with HIV. This proposal would require that when a previous donor subsequently tests positive for antibody to HIV, a blood establishment shall quarantine previously collected blood, blood components, and plasma collected from such donor, and notify consignees of such blood so that appropriate action is taken. The agency is proposing these rules to help ensure the continued safety of the blood supply, to help ensure that information is provided to users of blood and blood components, and to help ensure that transfusion recipients of potentially contaminated blood and blood components may be notified as appropriate.

Description of Respondents: Blood establishments (Business and Not-for-Profit).

ESTIMATED ANNUAL REPORTING AND RECORDKEEPING BURDEN

Section	Annual number of respondents	Responses per respondent	Total responses per hours per recordkeeper	Annual hours per response	Annual burden hours
Recordkeeping					
606.100(b)(19)	2,641	N/A	1.1	N/A	2,773
606.160(b)(1)(vii)	132	N/A	284	N/A	37,485
606.160(b)(1)(viii)	2,641	N/A	11.1	N/A	29,250
Subtotal					69,508
Reporting or Disclosure					
610.46	2,641	11.1	11.1	1	29,250
610.47	100	.4	.4	1	40
Subtotal					29,290
Total Hours					98,798

These estimates are an approximation of the average time expected to be necessary for a collection of information. They are based on such information as is available to FDA. The agency seeks comment on these estimates, particularly the industries' view of the number of firms and products affected by the collections of information contained in this proposed rule.

The agency will submit a copy of this proposed rule to OMB for its review of these information collections. Interested persons are requested to send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to FDA's Dockets Management Branch (address above), and to the Office of Information and Regulatory Affairs, OMB, rm. 3208, New Executive Office Bldg., Washington, DC 20503, Attn: Desk Officer for FDA.

VII. Comments

Interested persons may, on or before August 30, 1993 submit to the Dockets Management Branch (address above) written comments regarding this proposal. Two copies of any comments are to be submitted, except that individuals may submit one copy. Comments are to be identified with the docket number found in brackets in the

heading of the document. Received comments may be seen in the office above between 9 a.m. and 4 p.m., Monday through Friday.

VIII. References

The following references have been placed on display in the Dockets Management Branch (address above) and may be seen by interested persons between 9 a.m. and 4 p.m., Monday through Friday.

1. Memorandum to Registered Blood Establishments from the Director, Office of Biologics Research and Review, July 22, 1985.

2. Memorandum to Blood Establishments from the Director, Center for Biologics Evaluation and Research, December 5, 1990.

3. Memorandum to All Registered Blood Establishments from the Director, Center for Biologics Evaluation and Research, April 6, 1988.

List of Subjects

21 CFR Part 606

Blood, Labeling, Laboratories, Reporting and recordkeeping requirements.

21 CFR Part 610

Biologics, Labeling, Reporting and recordkeeping requirements.

Therefore, under the Federal Food, Drug, and Cosmetic Act, the Public Health Service Act, and the Administrative Procedure Act, it is proposed that 21 CFR parts 606 and 610 be amended as follows:

PART 606—CURRENT GOOD MANUFACTURING PRACTICE FOR BLOOD AND BLOOD COMPONENTS

1. The authority citation for 21 CFR part 606 continues to read as follows:

Authority: Secs. 201, 301, 501, 502, 505, 510, 520, 701, 704 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321, 331, 351, 352, 355, 360, 360j, 371, 374); secs. 215, 351, 353, 361 of the Public Health Service Act (42 U.S.C. 216, 262, 263a, 264).

2. Section 606.100 is amended by adding new paragraph (b)(19) to read as follows:

§ 606.100 Standard operating procedures.

* * * * *

(b) * * *

(19) Procedures in accordance with § 610.46 of this chapter to look-back at prior donations of blood and blood products from a donor who has donated blood and subsequently tests repeatably reactive for infection with human immunodeficiency virus (HIV) or otherwise is determined to be unsuitable when tested in accordance with § 610.45 of this chapter. Procedures to quarantine in-house blood and blood components intended for transfusion or further manufacture, including Source Plasma and Recovered Plasma, that were obtained from such donors; procedures to notify consignees regarding the need to quarantine such products; procedures to determine the suitability for release of such products from quarantine; procedures to notify consignees of blood and blood components from such donors of the results of the antibody testing of such donors; and procedures in accordance with § 610.47 of this chapter to notify attending physicians so that transfusion recipients are informed that they may have received blood infected with the human immunodeficiency virus.

* * * * *

3. Section 606.160 is amended by adding new paragraphs (b)(1)(vii) and (b)(1)(viii) to read as follows:

§ 606.160 Records.

* * * * *

(b) * * *

(1) * * *

(vii) Records to relate the donor with the unit number of each previous donation from that donor.

(viii) Records of quarantine, notification, testing, and disposition performed pursuant to §§ 610.46 and 610.47 of this chapter.

* * * * *

PART 610—GENERAL BIOLOGICAL PRODUCTS STANDARDS

4. The authority citation for 21 CFR part 610 continues to read as follows:

Authority: Secs. 201, 501, 502, 503, 505, 510, 701 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321, 351, 352, 353, 355, 360, 371); secs. 215, 351, 352, 353, 361 of the Public Health Service Act (42 U.S.C. 216, 262, 263, 263a, 264).

5. Section 610.45 is amended by adding new paragraph (d) to read as follows:

§ 610.45 Human immunodeficiency virus (HIV) requirements.

* * * * *

(d) For a donor whose test results for antibody to HIV are repeatably reactive or otherwise determined to be unsuitable when tested in accordance with paragraph (a) of this section, the blood establishment shall comply, as applicable, with §§ 610.46 and 610.47.

6. New §§ 610.46 and 610.47 are added to subpart E to read as follows:

§ 610.46 Look-back requirements.

(a) *Quarantine and notification.* (1) All blood establishments are required to take appropriate action when a donor of blood or blood components, including Source Plasma, tests repeatably reactive for antibody to human immunodeficiency virus (HIV) or otherwise is determined to be unsuitable when tested in accordance with § 610.45. For units collected from that donor within the 5 years prior to the repeatably reactive test if intended for transfusion, or collected within the 6 months prior to the repeatably reactive test if intended for further manufacture, the blood establishment shall promptly:

(i) Quarantine all such blood and blood components held at that establishment; and

(ii) Notify consignees so that such products they hold are quarantined.

(2) Consignees notified in accordance with paragraph (a)(1)(ii) of this section shall quarantine unpooled products held at that establishment.

(b) *Testing and notification of consignees of results.* Blood establishments that have distributed blood or blood components from a donor described in paragraph (a) of this section shall perform a licensed, more specific test for HIV on the donor's blood, and further shall notify the consignees, within 2 weeks after the donor's repeatably reactive test, of the results of the test.

(c) *Release and exemption from quarantine.* Products intended for transfusion or further manufacture which have been quarantined under paragraph (a) of this section may be released if the donor is subsequently tested for antibody to HIV by a licensed, more specific test and the test result is negative. In addition, products intended for transfusion need not be held in quarantine if a determination has been made that the blood or blood component was collected more than 12 months prior to the donor's most recent negative screening test when tested in accordance with § 610.45.

(d) Actions under this section do not constitute a product recall as defined in § 7.3(g) of this chapter.

§ 610.47 Look-back notification requirements for transfusion services.

(a) Transfusion services that are not subject to the Health Care Financing Administration's regulations on conditions of Medicare participation (42 CFR part 482) are required to take appropriate action in accordance with paragraph (b) of this section when a recipient has received blood from a donor determined to be unsuitable when tested for human immunodeficiency virus (HIV) infection in accordance with § 610.45 and the results of the licensed more specific test

are positive, or not available within 2 weeks as specified in § 610.46.

(b) *Notification of recipients of prior transfusions.* If the transfusion service has administered any unit of blood as described in paragraph (a) of this section, the transfusion service shall notify the recipients' attending physician (physician of record) and ask him or her to inform the recipient of the need for HIV testing and counseling. The physician may notify another authorized person, such as a parent or guardian of the recipient, if the reasons to do so are documented pursuant to § 606.160 of this chapter. If the physician is unavailable or declines to notify the recipient, the transfusion service shall notify the recipient and inform the recipient of the need for HIV testing and counseling. The transfusion service is responsible for notification, including basic explanations to the recipient and referral for counseling, and shall document the notification or attempts to notify the attending physician or the recipient, pursuant to § 606.160 of this chapter.

Dated: March 26, 1993.

David A. Kessler,

Commissioner of Food and Drugs.

Donna E. Shalala,

Secretary of Health and Human Services.

[FR Doc. 93–15400 Filed 6–29–93; 8:45 am]

BILLING CODE 4160–01–P

DEPARTMENT OF THE TREASURY

Internal Revenue Service

26 CFR Part 1

[EE–14–81]

RIN 1545–AD81

Deductions and Reductions in Earnings and Profits (or Accumulated Profits) With Respect to Certain Foreign Deferred Compensation Plans Maintained by Certain Foreign Corporations or by Foreign Branches of Domestic Corporations; Correction

AGENCY: Internal Revenue Service, Treasury.

ACTION: Correction to notice of proposed rulemaking.

SUMMARY: This document contains corrections to the notice of proposed rulemaking (EE–14–81), which was published in the **Federal Register** for Friday, May 7, 1993 (58 FR 27219). The proposed regulations relate to the limitations on deductions and adjustments to earnings and profits (or accumulated profits) with respect to certain foreign deferred compensation plans.

FOR FURTHER INFORMATION CONTACT: Elizabeth A. Purcell, (202) 622–6080 (not a toll-free number).

SUPPLEMENTARY INFORMATION:

Background

The notice of proposed rulemaking that is the subject of these corrections contain proposed amendments to the Income Tax Regulations (26 CFR part 1) under sections 404A and 7805(a) of the Internal Revenue Code.

Need for Correction

As published, the proposed regulations contain errors which may prove to be misleading and are in need of clarification.

Correction of Publication

Accordingly, the publication of the proposed regulations (EE–14–81), which was the subject of FR Doc. 93–10743, is corrected as follows:

1. On page 27224, column 3, in the preamble under the heading "Section 481(a) Adjustment", second line from the bottom of the paragraph continued from column 2, the language "plan as the beginning of the year of a" is corrected to read "plan as of the beginning of the year of a".

§ 1.404–A–7 [Connected]

2. On page 27248, column 3, § 1.404A–7(d)(5), *Example 3*, eleventh line following the table, the language "as provided paragraph (d) of this section," is corrected to read "as provided in paragraph (d) of this section,".

3. On page 27249, column 2, § 1.404A–7(f)(1)(i), sixth line from the bottom of the paragraph, the language "this section, however. Furthermore, the" is corrected to read "this section. Furthermore, the".

Cynthia E. Grigsby,

Alternate Federal Register Liaison Officer, Assistant Chief Counsel (Corporate).

[FR Doc. 93–15302 Filed 6–29–93; 8:45 am]

BILLING CODE 4830–01–U

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 85

[FRL–4672–6]

Emission Defect Reporting Requirements; Public Workshop

AGENCY: Environmental Protection Agency.

ACTION: Notice of public workshop and request for comments.

SUMMARY: The Environmental Protection Agency (EPA) is currently considering possible revisions to its motor vehicle and engine Emission Defect Reporting Requirements, promulgated under the Clean air Act. To aid the Agency in this process, a public workshop will be held on various issues relevant to revising the current defect reporting regulations. The Agency is also inviting written comment on these issues. All interested parties are invited to attend the public workshop and provide input on the relevant issues.

DATES: The workshop will be held on Tuesday, July 27, from 10 a.m. to 5 p.m. in Washington, DC. Persons interested in making presentations at the workshop are requested to notify the Agency contact below at least two weeks prior to the workshop so that a final agenda can be prepared. Written comments may be submitted to the same Agency contact until August 27, 1993.

ADDRESSES: The workshop will be held at the EPA Judiciary Square building in the first floor conference room, 501 3rd Street NW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Mary Ann Stumbaugh, Recall Branch, Manufacturers Operations Division (6405J), U.S. Environmental Protection Agency, 401 M St. SW., Washington, DC 20460. Telephone: (202) 233–9324.

SUPPLEMENTARY INFORMATION:

I. Background

The Federal Motor Vehicle Emissions Control Program established under title II of the Clean Air Act and EPA's implementing regulations are structured to insure that manufacturers build motor vehicles an engines that conform to the applicable emission standards for the vehicles' or engines' useful lives. This program includes requirements for certification based on pre-production testing, assembly line testing, recall of non-complying in-use vehicles, as well as emission warranties for individual owners. In addition, section 208(a) of the Clean Air Act provides the Administrator with the authority to require a manufacturer to "make reports and provide information the Administrator may reasonably require to determine whether the manufacturer or other person has acted or is acting in compliance with" Parts A and C of Title II of the Clean Air Act and regulations thereunder.

The "Emission Defect Reporting Requirements," 40 CFR 85.1901–85.1908, are an important component of EPA's programs to detect potential emission nonconformities of in-use vehicles and engines. Current regulations require manufacturers to

submit a defect information report to EPA whenever a specific emission related defect is found to exist in 25 or more vehicles or engines of the same model year.

Defect information reports alert EPA to potential emissions nonconformities among in-use vehicles or engines. Manufacturers are currently required to submit defect information reports whenever a defect is found in the required number of vehicles or engines. However, manufacturers often do not actively search for possible emission related defects, or monitor available data to track defects. EPA is considering amendments to the regulations that would require manufacturers to collect, analyze, and submit data on potential emission-related defects. This would provide for more thorough and accurate identification of emission-related defects.

II. Issues

EPA is interested in obtaining more information on the issues described below. Parties submitting written comments may assert a business confidentiality claim covering all or part of the information provided. A claim of business confidentiality regarding any information submitted should be made in a manner consistent with 40 CFR 2.203(b). Information covered by such a claim will be disclosed by EPA only to the extent, and by means of the procedures set forth in 40 CFR part 2, subpart B. If no claim accompanies the information when it is received by EPA, it may be made available to the public without further notice to the submitting party.

Data Sources for Identification of Emissions Defects

The Agency's goal in defect reporting is to accurately identify emissions defects that occur during the useful life of vehicles and engines. One means of monitoring potential emissions defects is through warranty claims. Other possible means of tracking defects include, but are not limited to, part sales, repair records (both warranty and non-warranty), and manufacturers' own in-use testing.

EPA requests comments from manufacturers regarding data tracking. Persons providing comment to the Agency on this issue are requested to include in their comments responses to the following questions:

(1) In order to implement a system to effectively identify defective components during the entire useful life or a vehicle, what data should be collected? How and from whom would the data be collected?

(2) Given options of (a) tracking data for a shorter period of time (2 years/ 24,000 miles, for example) while meeting more stringent triggers for further action (providing the Agency with a report when defect levels reach 4%, perhaps), or (b) monitoring for a longer period of time and having less stringent triggers for further action, which option is preferable?

California Procedures for Reporting Failures of Emission-Related Components

In February 1990, amendments to the California Air Resources Board's (CARB's) Recall Regulations went into effect. These amendments include revisions to the procedures for reporting failures of emission-related components. Manufacturers of California-certified vehicles are now required to review and compile warranty claim data, and to submit (to (CARB) quarterly reports based on warranty claims for emission-related components. If the number of warranty claims for a specific component of an engine family exceeds a specified percentage of total sales for that engine family, further investigation into the validity of the warranty claims data and the effects of the component failure on emissions is required. EPA requests specific data on the burden this requirement has on manufacturers. Affected parties providing comment to the Agency on this issue are requested to address the following questions:

(1) On average, prior to model year 1990, how many voluntary recalls (per model year) were initiated due to information submitted to CARB under CARB's defect reporting regulations?

(2) Since model year 1990, how many voluntary recalls (per model year) have been initiated due to the collection of warranty claim information?

(3) Are data collected from all California dealerships, or is a sample used to project the data from the entire state? If a sample is used, what criteria are used for selecting the representative dealerships? What percentage of California dealerships does the sample represent? What percentage of California sales?

(4) What methods are used to validate warranty claims in order to determine the level of actual component failures (as needed to trigger a field information report)?

(5) What methods are used to project the number of validated component defects for an engine family (as required in the field information report)?

(6) What methods are used (or would be used) to determine the emissions impact of a validated component defect (as required in the emissions impact report)?

In addition to the questions above, commenters are encouraged to provide date and comments on any issues not specified above that are pertinent to the impact of the California warranty reporting requirements.

Electronic reporting

In an effort to reduce the volume of paper handled by both manufacturers and EPA, the Agency is considering making electronic communication the primary method for submission of reports related to defective components. EPA requests information on the hardware, operating systems, and software currently being used by manufacturers for collecting, analyzing, and distributing data and information. Persons presenting or submitting comments are asked to answer the following questions:

(1) What types of hardware (IBM PC, mainframe, etc.) are currently being used? What operating systems (DOS 5.0, UNIX, etc.) are used?

(2) What commercial software packages are used?

(3) What method (electronic or other) is used to distribute information (such as technical service bulletins) in dealerships?

(4) What method (electronic or other) is used to receive information (such as warranty claims) from dealerships?

(5) What method (electronic or other) is used to exchange information between other common contacts (such as part suppliers, different plants, etc.)?

(6) What would be the preferred method for transporting defect data to EPA? What medium (floppy disk, magnetic tape, modem, etc.) would be used with this method? What is this method preferable over other methods?

III. Workshop Structure

EPA will arrange the workshop agenda to accommodate those persons who what to make presentations and who notify the Agency contact listed above at least two weeks prior to the workshop. EPA will allot time to address the issues outlined in this notice, as well as other relevant issues from the comments received prior to the workshop. Persons who have not previously contacted the Agency but who wish to make oral presentations on the day of the workshop may do so to the extent time permits. Written comments may also be submitted to the

Agency for 30 days after the workshop, to the Agency contact listed above.

Jerry A. Kurtzweg,

Acting Assistant Administrator for Air Radiation.

[FR Doc. 93–15259 Filed 6–29–93; 8:45 am]

BILLING CODE 6560–50–M

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40 CFR Part 180

[OPP–300287; FRL 4587–5]

RIN No. 2070–AC18

Boric Acid and its Salts, Borax (Sodium Borate Decahydrate), Disodium Octaborate Tetrahydrate, Boric Oxide (Boric Anhydride), Sodium Borate and Sodium Metaborate; Tolerance Exemptions

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This document proposes that an exemption from the requirement of a tolerance be established for residues of boric acid and its salts, borax (sodium borate decahydrate), disodium octaborate tetrahydrate, boric oxide (boric anhydride), sodium borate, and sodium metaborate, in or on raw agricultural commodities when used as an active ingredient in insecticides, herbicides, or fungicides preharvest or postharvest in accordance with good agricultural practices. This proposed regulation was requested by Bushwacker Associates, Galveston, TX. The proposed tolerance exemption would supersede the tolerances for boron established under 40 CFR 180.271; therefore, this document also proposes to remove § 180.271.

DATES: Written comments, identified by the document control number, [OPP-300287], must be received on or before July 30, 1993.

ADDRESSES: By mail, submit comments to: Public Docket and Freedom of Information Section, Field Operations Division (H7506C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. In person, bring comments to: Rm. 1128, CM #2, 1921 Jefferson Davis Hwy., Arlington, VA 22202.

Information submitted as a comment concerning this document may be claimed confidential by marking any part or all of that information as "Confidential Business Information" (CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. A copy of the comment that does not contain CBI must be submitted for inclusion in the public record. Information not marked confidential may be disclosed publicly by EPA without prior notice. All written comments will be available for public inspection in Rm. 1128 at the address given above, from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: By mail, Robert A. Forrest, Product Manager (PM 14), Registration Division (H7505C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: Rm. 219, CM #2, 1921 Jefferson Davis Hwy., Arlington, VA, (703)-305-6600.

SUPPLEMENTARY INFORMATION: Bushwacker Associates, Inc., Division of Bethurum Research & Development, Inc., P.O. Box 3436, Galveston, TX 77552, submitted pesticide petition (PP) 2F4132 requesting that the Administrator, pursuant to section 408(e) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 346a(e), propose to amend 40 CFR part 180 by establishing an exemption from the requirement of a tolerance for residues of boric acid and its salts, borax (sodium borate decahydrate), disodium octaborate tetrahydrate, boric oxide (boric anhydride), sodium borate, and sodium metaborate in or on raw agricultural commodities when used as an active ingredient in insecticides, herbicides, or fungicides preharvest or postharvest in accordance with good agricultural practices.

The data submitted in the petition and other relevant material have been evaluated. The pesticide is considered useful for the purpose for which the exemption is sought.

The petition requested that an exemption from the requirement of a tolerance be established as a result of the use of boric acid as a fire ant control bait in agricultural areas. The product is to be applied as a broadcast via ground or air at a rate of 0.5 lb ai/acre. A second application may be made 5 days after initial treatment.

Boron occurs naturally in water, fruits, vegetables, and forage crops, and is an essential nutrient for plants. In pears and strawberries the levels may reach 160 ppm, and in red cabbage occasionally as high as 200 to 300 ppm. The increment of added boron residues resulting from pesticide use of boric acid and the boron-containing salts is insignificant compared to levels of naturally occurring boron in citrus and cottonseed. For example, lemons average 1 ppm incremental boron due to treatment, compared with 2.5 ppm boron which is endogenous.

Based on a review of the toxicology data it has been determined that even with an increase of exposure there would be no increase in hazard because boric acid and its salts are benign.

Based upon the above information and review of its use, EPA has found that, when used in accordance with good agricultural practice, this active ingredient is useful and a tolerance is not necessry to protect the public health. Therefore, EPA proposes that the exemption from the requirement of a tolerance be established as set forth below, and as the tolerance exemption would supersede tolerances for boron established under 40 CFR 180.271, it is also proposed that § 180.271 be removed.

Any person who has registered or submitted an application for registration of a pesticide under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as amended that contains any of the ingredients listed herein may request within 30 days after publication of this document in the **Federal Register** that this rulemaking proposal be referred to an Advisory Committee in accordance with section 408(e) of the Federal Food, Drug, and Cosmetic Act.

Interested persons are invited to submit written comments on the proposed regulations. Comments must bear a notation indicating the document control number, [OPP-300287]. All written comments filed in response to this petition will be available in the Public Information Branch, at the address given above, from 8 a.m. to 4 p.m., Monday through Friday, except legal holidays.

The Office of Management and Budget has exempted this rule from the requirements of section 3 of Executive Order 12291.

Pursuant to the requirements of the Regulatory Flexibility Act (Pub. L. 96-354, 94 Stat. 1164, 5 U.S.C. 601-612), the Administrator has determined that regulations establishing new tolerances or raising tolerance levels or establishing exemptions from tolerance requirements do not have a significant economic impact on a substantial number of small entities. A certification statement to this effect was published in the **Federal Register** of May 4, 1981 (46 FR 24950).

List of Subjects in 40 CFR Part 180

Administrative practice and procedure, Agricultural commodities, Pesticides and pests.

Dated: June 17, 1993.

Lawrence E. Culleen,

Acting Director, Registration Division, Office of Pesticide Programs.

Therefore, it is proposed that part 180 be amended as follows:

PART 180—[AMENDED]

1. The authority citation for part 180 continues to read as follows:

Authority: 21 U.S.C. 346a and 371

§ 180.271 [Removed]

2. In subpart C, § 180.271 *Boron; tolerances for residues* is removed.

3. In subpart D, by adding new § 180.1121, to read as follows:

§ 180.1121 Boric acid and its salts, borax (sodium borate decahydrate), disodium octaborate tetrahydrate, boric oxide (boric anhydride), sodium borate and sodium metaborate; exemption from the requirement of a tolerance.

An exemption from the requirement of a tolerance is established for residues of the pesticidal chemical boric acid and its salts, borax (sodium borate decahydrate), disodium octaborate tetrahydrate, boric oxide (boric anhydride), sodium borate and sodium metaborate, in or on raw agricultural commodities when used as an active ingredient in insecticides, herbicides, or fungicides preharvest or postharvest in accordance with good agricultural practices.

[FR Doc. 93–15415 Filed 6–29–93; 8:45 am]

BILLING CODE 6560–50–F

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40 CFR Part 180

[OPP–300290; FRL–4627–3]

[RIN 2070–AC18]

C.I. Pigment Violet #23 (Carbazole Violet), C.I. Pigment Blue #15, C.I. Pigment Green #7, and FD & C Red No. 40; Tolerance Exemptions

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This document proposes that an exemption from the requirement of a tolerance be established for residues of C.I. Pigment Violet #23 (Carbazole Violet; CAS Registry No. 6358-30-1), C.I. Pigment Blue #15 (CAS Registry No. 147-14-8), C.I. Pigment Green #7 (CAS Registry No. 1328-53-6), and FD & C Red No. 40 (CAS Reg. No. 25956-17-6) when used as inert ingredients (dyes, coloring agents) in pesticide formulations applied to growing crops only. This proposed regulation was requested by Becker-Underwood, Inc., and responds to a comment by Gustafson, Inc., to a proposed rule on FD & C Red No. 40 regarding the use and amount of FD & C Red No. 40 exempt from the requirement of a tolerance.

DATES: Comments, identified by the document control number [OPP-300290], must be received on or before July 30, 1993.

ADDRESSES: By mail, submit written comments to: Public Response and Program Resources Branch, Field Operations Division (H7506C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. In person, deliver comments to: Rm. 1128, CM #2, 1921 Jefferson Davis Hwy., Arlington, VA 22202. Information submitted as a comment concerning this document may be claimed confidential by marking any part or all of that information as "Confidential Business Information" (CBI).

Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. A copy of the comment that does not contain CBI must be submitted for inclusion in the public record. Information not marked confidential will be included in the public docket by the EPA without prior notice. The public docket is available for public inspection in Rm. 1128 at the address given above, from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTATCT: By mail: Connie Welch, Registration Support Branch, Registration Division (H7505W), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: 2800 Crystal Drive, North Tower, Arlington, VA 22202, (703) 308-8320.

SUPPLEMENTARY INFORMATION: Becker-Underwood, Inc., 801 Dayton Ave., Ames, IA 50010, submitted pesticide petitions (PP) 2E4129, 2E4130, and 2E4131 requesting that the Administrator, pursuant to section 408(e) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 346a(e), amend 40 CFR 180.1001(d) by establishing an exemption from the requirement of a tolerance for residues of C.I. Pigment Violet #23 (Carbazole Violet; CAS Registry No. 6358-30-1), C.I. Pigment Blue #15 (CAS Registry No. 147-14-8), and C.I. Pigment Green #7 (CAS Registry No. 1328-53-6) when used as inert ingredients (dyes, coloring agents) in pesticide formulations applied to growing crops only.

Gustafson, Inc., P.O. Box 660065, Dallas, TX 75266-0065, submitted a comment to OPP-300277 (58 FR 12200, March 3, 1993) requesting the Administrator to expand the proposed tolerance exemption for FD & C Red No. 40 (CAS Reg. No. 25956-17-6), principally disodium salt of 6-hydroxy-5-[(2-methoxy-5-methyl-4sulfophenyl)azo]-2-naphthalenesulfonic acid. EPA had proposed to exempt FD & C Red No. 40 from the requirement of a tolerance when used as an inert ingredient (dye, coloring agent) in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest with the limitation that the dye was not to exceed 0.002% by weight in the formulation. Gustafson, Inc., requested that the limitation be raised to 2% by weight in pesticide formulations so that the dye could be used for seed treatment. Two percent by weight of the pesticide formulation is needed for FD & C Red No. 40 in seed treatment to distinguish treated seed from untreated seed. Since the original request did not involve seed treatment, it was finalized, as proposed, at the lower limit and this proposal for the seed treatment application was developed for use on growing crops only.

Inert ingredients are all ingredients that are not active ingredients as defined in 40 CFR 153.125, and include, but are not limited to, the following types of ingredients (except when they have a pesticidal efficacy of their own): solvents such as alcohols and hydrocarbons; surfactants such as polyoxyethylene polymers and fatty acids; carriers such as clay and diatomaceous earth; thickeners such as carrageenan and modified cellulose; wetting, spreading, and dispersing agents; propellants in aerosol dispensers; microencapsulating agents; and emulsifiers. The term "inert" is not intended to imply nontoxicity; the ingredient may or may not be chemically active.

The data submitted in the petition and other relevant material have been evaluated. As part of the EPA policy statement on inert ingredients published in the **Federal Register** of April 22, 1987 (52 FR 13305), the Agency established data requirements which will be used to evaluate the risks posed by the presence of an inert ingredient in a pesticide formulation. Exemptions from some or all of the requirements may be granted if it can be determined that the inert ingredient will present minimal or no risk.

The Agency has decided that the data normally required to support the proposed tolerance exemptions for C.I.

Pigment Violet #23 (Carbazole Violet; CAS Reg. No. 6358-30-1), C.I. Pigment Blue #15 (CAS Registry No. 147-14-8), C.I. Pigment Green #7 (CAS Registry No. 1328-53-6), and FD & C Red No. 40 (CAS Reg. No. 25956-17-6) will not need to be submitted. The rationale for this decision is described below.

1. C.I. Pigment Violet #23 is not expected to be absorbed by any route based on a review of the acute oral, dermal, and subchronic data submitted, thus eliminating concerns for oncogenicity, mutagenicity, or developmental toxicity.

2. C.I. Pigment Violet #23 has a reported acute oral LD_{50} of 10 gm/kg or greater in mice. No signs of skin or eye irritation were observed after application of C.I. Pigment Violet #23.

3. In a 43-day feeding study, rats fed 1 gm/kg of C.I. Pigment Violet #23 in aqueous dispersion did not demonstrate any abnormal pathology.

4. A series of cytotoxicity studies were conducted indicating that C.I. Pigment Violet #23 is noncytotoxic.

5. C.I. Pigment Green #7 and C.I. Pigment Blue #15 both have a reported acute oral LD_{50} of 10 gm/kg or greater in rats. No signs of skin or eye irritation were observed after application of C.I. Pigment Green #7, and no signs of skin or mucosal irritation were observed after application of C.I. Pigment Blue #15.

6. A 2-year NTP Bioassay study conducted on C.I. Pigment Green #7 and C.I. Pigment Blue #15 was dropped based on lack of absorption or adverse effects in a 90-day feeding study in rats and mice.

7. In vitro screening tests for mutagenicity conducted on C.I. Pigment Green #7 and C.I. Pigment Blue #15 were negative.

8. C.I. Pigment Green #7 is approved for use as a colorant in food-contact resinous and polymeric coatings under 21 CFR 175.300.

9. C.I. Pigment Green #7 is approved for use as a colorant in contact lenses under 21 CFR 73.3124.

10. C.I. Pigment Green #7 is approved for use as a pigment in rubber products intended for repeated food-contact use under 21 CFR 177.2600.

11. C.I. Pigment Blue #15 is approved by the Food and Drug Administration for use as a colorant in polypropylene sutures, polybutester nonabsorbable sutures, nonabsorbable polybutylene terephthalate monofilament sutures for general and ophthalmic surgery, and for intraocular lenses under 21 CFR 74.3045.

12. C.I. Pigment Blue #15 is approved for use as a colorant for contact lenses under 21 CFR 74.3045.

13. C.I. Pigment Blue #15 is approved for use as a pigment in polyurethane resins used as food-contact surfaces for dry food under 21 CFR 177.1680.

14. C.I. Pigment Blue #15 is approved for use as a colorant in food-contact polymers under 21 CFR 178.3297.

15. FD & C Red No. 40 is considered safe for use in coloring foods under 21 CFR 74.340.

16. FD & C Red No. 40 is considered safe for use in coloring drugs under 21 CFR 74.1340.

17. FD & C Red No. 40 is considered safe for use in coloring cosmetics under 21 CFR 74.2340.

18. FD & C Red No. 40 was the subject of an Interagency Working Group chaired by the Food and Drug Administration. The Working Group, which included scientists and statisticians from academia and government, including EPA, reviewed the design and conduct of an *in utero*-exposed lifetime rat study and two *in utero*-exposed lifetime mouse studies. In the unpublished "Report of the Interagency Working Group on FD C Red No. 40," June 1981, EPA MRID 412365-03, the Working Group concluded:

> The results from the two mouse studies and the rat study were analyzed statistically both for tumor incidence and time-to-tumor. No pattern of statistically significant increases in the incidence of cancer in relation to FD C & Red No. 40 has been found in any of the three studies.... We find no substantial question of safety and at this time see no need for additional testing in chronic rodent studies.

19. FD & C Red No. 40 would be an alternative to another frequently used seed colorant, Rhodamine B, which is a List 1, "Inerts of Toxicological Concern." Registrants have been encouraged to remove any List 1 inert ingredient from their pesticide formulation.

Based upon the above information and review of the ingredients' use, EPA has found that, when used in accordance with good agricultural practice, these ingredients are useful and a tolerance is not necessary to protect the public health. Therefore, EPA proposes that the exemption from the requirement of a tolerance be established as set forth below.

Any person who has registered or submitted an application for registration of a pesticide, under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as amended, which contains any of the ingredients listed herein, may request within 30 days after publication of this document in the **Federal Register** that this rulemaking proposal be referred to an Advisory Committee in accordance with section 408(e) of the Federal Food, Drug, and Cosmetic Act.

Interested persons are invited to submit written comments on the proposed regulation. Comments must bear a notation indicating the document control number, [OPP-300290]. All written comments filed in response to this petition will be available in the Public Response and Program Resources Branch, at the address given above from 8 a.m. to 4 p.m., Monday through Friday, except legal holidays.

The Office of Management and Budget has exempted this rule from the requirements of section 3 of Executive Order 12291.

Pursuant to the requirements of the Regulatory Flexibility Act (Pub. L. 96-354, 94 Stat. 1164, 5 U.S.C. 601-612), the Administrator has determined that regulations establishing new tolerances or raising tolerance levels or establishing exemptions from tolerance requirements do not have a significant economic impact on a substantial number of small entities. A certification statement to this effect was published in the **Federal Register** of May 4, 1981 (46 FR 24950).

List of Subjects in 40 CFR Part 180

Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Recording and recordkeeping requirements.

Dated: June 17, 1993.

Lawrence E. Culleen,

Acting Director, Registration Division, Office of Pesticide Programs.

Therefore, it is proposed that 40 CFR part 180 be amended as follows:

Part 180—[Amended]

1. The authority citation for part 180 continues to read as follows:

Authority: 21 U.S.C. 346a and 371.

2. Section 180.1001(d) is amended by adding and alphabetically inserting the inert ingredients, to read as follows:

§ 180.1001 Exemptions from the requirement of a tolerance.

* * * * *

(d) * * *

Inert Ingredients	Limits	Uses
• • •	•	• • • •
C.I. Pigment Blue #15 (CAS Reg. No. 147-14-8)	.....	Dye, coloring agent
C.I. Pigment Green #7 (CAS Reg. No. 1328-53-6)	.....	Dye, coloring agent
C.I. Pigment Violet #23 (CAS Reg. No. 6358-30-1)	.....	Dye, coloring agent
• • •	•	• • • •
C.I. Pigment Red No. 40 (CAS Reg. No. 25956-17-6) conforming to 21 CFR 74.340.	For seed treatment use only. Not to exceed 2% by weight of pesticide formulation..	Dye, coloring agent
• • •	•	• • • •

* * * * *

[FR Doc. 93–15417 Filed 6–29–93; 8:45 am]
BILLING CODE 6560–50–F

40 CFR Part 180

[PP 5F3177/P561; FRL–4628–3]

RIN 2070–AC18

Pesticide Tolerance for Cyromazine

AGENCY: Environmental Protection Agency

ACTION: Proposed rule.

SUMMARY: EPA proposes to establish a tolerance for residues of the insect growth regulator cyromazine (*N*-cyclopropyl-1,3,5-triazine-2,4,6-triamine) (Armor) and its metabolite melamine (1,3,5-triazine-2,4,6-triamine), calculated as cyromazine, in or on mushrooms at 10.0 parts per million (ppm). This regulation to establish maximum permissible levels for residues of the insecticide was requested pursuant to a petition submitted by Ciba-Geigy Corp.

DATES: Written comments must be received by July 21, 1993.

ADDRESSES: Comments, in triplicate, should bear the docket control number, [PP 5F3177/P561], and be submitted to: Public Response and Program Resources Branch, Field Operations Division (H7506C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. In person bring comments to: Rm. 1128, Crystal Mall #2, 1921 Jefferson Davis Hwy., Crystal City, VA 22202.

Information submitted in any comment concerning this document may be claimed confidential by marking any part or all of that information as "Confidential Business Information" (CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. A copy of the comment that does not contain CBI must be submitted for inclusion in the public record. Information not marked confidential may be disclosed publicly by EPA without prior notice to the submitter. Written comments will be available for public inspection in Rm. 1128 at the Virginia address given above, from 8 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: By mail: Phillip O. Hutton, Product Manager (PM) 18, Registration Division (H7505C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: Rm. 202, CM #2, 1921 Jefferson Davis Hwy., Arlington, VA 22202, (703)-557-2386.

SUPPLEMENTARY INFORMATION: In the **Federal Register** of January 30, 1985 (50 FR 4265), EPA issued a notice which announced that Ciba-Geigy Corp., P.O. Box 18300, Greensboro, NC 27419, had submitted a pesticide petition (PP 5F3177) to EPA proposing to amend 40 CFR part 180 by establishing a tolerance, under section 408 of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 346a, for residues of the insecticide cyromazine (*N*-cyclo-propyl-1,3,5-triazine-2,4,6-triamine) and its metabolite melamine (1,3,5-triazine-2,4,6-triamine) in or on mushrooms at 10.0 ppm. Further, in the **Federal Register** of September 25, 1985 (50 FR 38895), EPA issued a notice which announced that Ciba-Geigy Corp. had revised the petition so that Ciba-Geigy Corp. proposed amending 40 CFR part 180 by establishing a tolerance for the combined residues of the insecticide cyromazine (*N*-cyclopropyl-1,3,5-triazine-2,4,6-triamine) and its principal metabolite, melamine (1,3,5-triazine-2,4,6-triamine), calculated as cyromazine in or on the commodity mushrooms at 10.0 ppm. The proposed analytical method for determining residues is gas chromatography.

There were no comments or requests for referral to an advisory committee received in response to these notices of filing. Because these notices of filing were issued 8 years ago, EPA is publishing a proposal in regard to the petition rather than proceeding directly to a final rule.

The scientific data submitted in the petition and other relevant material have been evaluated. A discussion of the toxicological data considered in support of the tolerance as well as a discussion of the risk of cyromazine and its metabolite melamine can be found in a rule (FAP 2H5355/P344) published in the **Federal Register** of April 27, 1984 (49 FR 18120) and in the Notice of Conditional Registration for Larvadex 0.3% Premix, published in the **Federal Register** of May 15, 1985 (50 FR 20373) Subsequent to these documents being published, the Agency has reevaluated both the developmental toxicity of cyromazine and the carcinogenic potential of its metabolite melamine.

Cyromazine has been classified by the Office of Pesticide Programs' Health Effects Division's Carcinogenicity Peer Review Committee (PRC) as Group C, i.e., possible human carcinogen. Mammary tumors in the mouse occurred at a dose that may have been insufficient for an adequate assessment of carcinogenic potential. However, the incidence of mammary tumors was almost three times the historical controls. These data were also supported by the same tumor type in the rat, although the dosing may have been excessive in this species. In addition, cyromazine has some structural similarities to other mammary tumor-producing analogs, although the relationship was not considered to be strong. Although the evidence from the rat study alone was not conclusive, in combination with the mouse study the weight-of-the-evidence for the carcinogenicity of cyromazine pointed toward a Group C classification. Because the rat study alone does not carry much weight (there may have been excessive dosing and because the incidence of mammary tumors was within the historical control range), the

Agency has chosen to use reference dose calculations to estimate human dietary risk from cyromazine residues.

Melamine, a metabolite of cyromazine, produced bladder tumors that were accompanied by bladder stones in dosed rats. Cyromazine did not produce bladder tumors in rats or mice, nor were any bladder stones or any other effect in the urinary tract noted in animals treated with cyromazine. Bladder tumors can be produced by the introduction of inert materials like glass beads and wax pellets into the bladder; a host of chemicals that lead to bladder stone formation also produce bladder tumors. It appears that irrespective of the composition of the stones, foreign bodies in the bladder induce intense epithelial irritation, compensatory cell proliferation, hyperplasia and, following chronic stimulation, bladder tumors. The Agency believes that this sequence: inflammation, hyperplasia and neoplasias would not occur unless preceded by stone formation in the bladder. Thus at doses far below those which induce the formation of bladder stones, tumor formation would not be expected to occur. The Agency thinks this to be the case for cyromazine, since only about 10% of cyromazine appears to be metabolized to melamine, and the maximum tolerated dose (MTD) for cyromazine in rats is about 3,000 ppm (accordingly, it is unlikely that a dose of cyromazine that would result in high enough melamine concentrations to produce bladder stones and bladder tumors would be tolerated in rats). Furthermore, human exposure to melamine from the pesticidal use of cyromazine via residues in food is far below the dose that was administered in the rat and it is not anticipated to produce bladder stones, much less bladder tumors. Therefore, the carcinogenic effects in the bladders of rats associated with melamine were not considered to be applicable to evaluating the carcinogenic potential of cyromazine. In sum, EPA believes cyromazine poses a negligible cancer risk to humans.

A chronic dietary exposure/risk assessment for the proposed use on mushrooms based on tolerance residue levels of 10 ppm was performed. This chronic analysis compared daily exposure estimates to a Reference Dose (RfD) of 0.0075 mg/kg body weight/day based on a no-observable-effects-level (NOEL) of 0.75 mg/kg body weight /day and an uncertainty factor of 100. The NOEL is based on a 6-month dog-feeding study which demonstrated decreased hematocrit and hemoglobin levels. Estimates (in mg/kg body weight/day and percents of RfD occupied) for the overall (average) U.S. population for currently published tolerances of cyromazine are 0.001861 and 25%. With the inclusion of mushrooms, these figures become 0.002075 and 28%. Therefore, the contribution of the mushroom tolerance takes up an additional 3 percent of the RfD. Since the exposure estimates are based on Theoretical Maximum Residue Contribution, typically an overestimate of actual exposure, and do not exceed the reference dose, the chronic health risk of cyromazine does not appear to be significant.

Regarding developmental effects, the Agency concluded in 1985 (50 FR 20373) that cyromazine was a developmental toxicant with a NOEL of 5 mg/kg body weight. Subsequent to this determination, the Agency has considered the "Weight-Of-Evidence" document submitted by Ciba-Geigy in support of the registrant's contention that cyromazine is not a developmental toxicant. Based on the document and additional information obtained by the Agency, the Agency has concluded that the developmental effects observed in the rabbit, namely cyclopia, diaphragmatic hernia, and hydrocephaly, are not consistently reproducible across studies, are clearly not cyromazine dose-related, and appear to have occurred by chance.

The Agency has received seven studies evaluating the developmental toxicity of cyromazine, six in the rabbit and one in the rat. Of the six rabbit studies submitted, only one is acceptable for regulatory purposes. This study, WIL 82001, shows developmental effects of cyclopia, diaphragmatic hernia, and hydrocephaly in treatment groups below the maternal lowest observable effect level (LOEL). Buckshire New Zealand White rabbits were used in this study. There appears to be a high background malformation rate in Buckshire rabbits with the observations of cyclopia and craniofacial head defects occurring in "clusters," where several studies will have no evidence of craniofacial defects and then several studies in a row will present with these observations. This was observed in the submitted historical control data (cyclopia and craniofacial head defect incidence of 7.94 per 10,000 New Zealand White Rabbit fetuses) and from evaluation of the open literature data base for cyromazine and for craniofacial birth defects (where it was found that the rabbit has a unique response to certain agents in the form of cyclopia; however, these agents have a steroidal structure which cyromazine does not possess). It was determined that the observed frequency of the observations could be explained by chance. The observations of diaphragmatic hernia and hydrocephaly were not dose related and were within the historical control range for New Zealand White Rabbits. The Agency has determined that the NOEL for developmental toxicity in the rabbit is 60 mg/kg/day, the highest dose tested.

The rat teratology study with cyromazine (IRDC, Study No. 382-070, 1979) using dose levels of 0, 100, 300, and 600 mg/kg/day of technical cyromazine was reevaluated for developmental toxicity based on observed skeletal variations and historical control data. The maternal toxicity NOEL was determined to remain at 100 mg/kg/day with a LOEL of 300 mg/kg/day based on increased incidence of clinical observations and decreased body weight gain. However, reevaluation of the data determined that the developmental toxicity NOEL was 300 mg/kg/day with a LOEL of 600 mg/kg/day due to the observations of increased incidence of minor skeletal variations.

Dietary exposures are well below these levels. Additionally, based on the expected levels of cyromazine exposure to unprotected mushroom workers mixing, loading, and applying the cyromazine end-use product Armor (anticipated daily exposure is 1.10 mg/kg/day); the low level of cyromazine dermal absorption (less than 13% in the rat) and the high NOEL for developmental toxicity in the rat teratology study; the risk for developmental toxicity to workers appears to be insignificant.

Based on the information cited above, the Agency has determined that the establishment of the tolerance by amending 40 CFR part 180 will protect the public health. Therefore, EPA proposes that the tolerance be established as set forth below.

Any person who has registered or submitted an application for registration of a pesticide, under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) as amended, which contains any of the ingredients listed herein, may request within 30 days after publication of this document in the Federal Register that this rulemaking proposal be referred to any Advisory Committee in accordance with section 408(e) of the Federal Food, Drug, and Cosmetic Act.

Interested persons are invited to submit written comments on the proposed regulation. Comments must bear a notation indicating the document control number, [PP 5F3177/P561]. All written comments filed in response

this petition will be available in the Public Response and Program Resources Branch, at the address given above from 8 a.m. to 4 p.m., Monday through Friday, except legal holidays.

The Office of Management and Budget has exempted this rule from the requirements of section 3 of Executive Order 12291.

Pursuant to the requirements of the Regulatory Flexibility Act (Pub. L. 96-354, 94 Stat. 1164, 5 U.S.C. 601-612), the Administrator has determined that regulations establishing new tolerances or raising tolerance levels or establishing exemptions from tolerance requirements do not have a significant economic impact on a substantial number of small entities. A certification statement to this effect was published in the **Federal Register** of May 4, 1981 (46 FR 24950).

List of Subjects in 40 CFR Part 180

Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: June 23, 1993.

Lawrence E. Culleen,

Acting Director, Registration Division, Office of Pesticide Programs.

Therefore, it is proposed 40 CFR part 180 be amended as follows:

PART 180—[AMENDED]

1. The authority citation for part 180 continues to read as follows:

Authority: 21 U.S.C. 346a and 371.

2. In § 180.414, new paragraph (e) is added, to read as follows:

§ 180.414 Cyromazine; tolerances for residues.

* * * * *

(e) Tolerances are established for combined residues of the insect growth regulator cyromazine (*N*-cyclo-propyl-1,3,5-triazine-2,4,6-triamine) and its metabolite melamine (1,3,5-triazine-2,4,6-triamine), calculated as cyromazine, in or on the following raw agricultural commodity:

Commodity	Parts per million
Mushrooms	10.0

[FR Doc. 93–15416 Filed 6–29–93; 8:45 am]

BILLING CODE 6560-50-F

40 CFR Parts 260, 261, 264, 265, 270 and 302

[FRL–4673–6]

RIN 2050–AD60

Extension of Comment Period for Proposed Rule Wood Surface Protection; Identification and Listing of Hazardous Waste; Testing and Monitoring Activities; et al.

AGENCY: Environmental Protection Agency.

ACTION: Notice of proposed rulemaking; Extension of Comment Period.

SUMMARY: The U.S. Environmental Protection Agency (EPA) is extending the comment period for a proposed rule published on April 27, 1993 (58 FR 25706) which proposed to amend the regulations for hazardous waste management under the Resource Conservation and Recovery Act (RCRA) by proposing to list as hazardous certain wastes from the use of chlorophenolic formulations in the wood surface protection industry. The original deadline for comments is being extended, and comments must now be submitted by July 14, 1993. The Agency recognizes that the docket for this proposed listing contains many technical documents. In addition, a member of the public has specifically requested additional time to submit comments because a relatively small number of supporting materials were inadvertently not included in the docket index at the time the proposed rule was published, and because the docket itself was closed for a period of one week while it moved to its present location (see 58 FR 28569 dated May 14, 1993). In light of these circumstances, the Agency is extending the comment period on the proposed rule.

DATES: Comments for this proposed rule should be submitted in writing to the address shown below on or before July 14, 1993 to be considered in the formulation of the final rule.

ADDRESSES: The official record of this rule-making is identified by Docket Number F–93–F33P–FFFFF and is located at the following address: EPA RCRA Docket Clerk, Room 2616 (OS–305), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

The docket is open from 9 a.m. to 4 p.m., Monday through Friday, excluding Federal holidays. The public must make an appointment to review docket materials by calling (202) 260–9327. The public may copy 100 pages from the docket at no charge; additional copies are $0.15 per page. Copies of materials relevant to the CERCLA portions of this rulemaking also are located in room 2427 at the above address.

FOR FURTHER INFORMATION CONTACT: The RCRA/Superfund Hotline, at (800) 424–9346 (toll-free) or (703) 412–9810, in the Washington, DC metropolitan area. The TDD Hotline number is (800) 553–7672 (toll-free) or (703) 486–3323, locally. For technical information on the proposed listing, contact Mr. David J. Carver at (202) 260–6775, Office of Solid Waste (OS–333), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

For technical information on the CERCLA aspects of this rule, contact: Ms. Gerain H. Perry, Response Standards and Criteria Branch, Emergency Response Division (5202–G), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460, (703) 603–8732.

Dated: June 25, 1993.

Walter W. Kovalick,

Acting Assistant Surgeon General, USPHS Acting Assistant Administrator.

[FR Doc. 93–15524 Filed 6–29–93; 8:45 am]

BILLING CODE 6560-50-M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Health Care Financing Administration

42 CFR Part 482

[BPD–633–P]

RIN 0938–AE40

Medicare Program; Hospital Standard for HIV Infectious Blood and Blood Products

AGENCY: Health Care Financing Administration (HCFA), HHS.

ACTION: Proposed rule.

SUMMARY: This proposed rule would address a blood and blood products safety issue that concerns the prompt notification of transfusion recipients who are at increased risk of HIV infection. Thus, this proposed rule would require hospitals to notify the recipient's attending physician when potentially HIV infectious blood and blood products have been administered, and ask the physician to inform the recipient of the need for HIV testing and counseling. If the physician is unavailable or declines to notify the recipient, the hospital must notify the recipient and inform the recipient of the need for HIV testing and counseling.

DATES: Written comments will be considered if we receive them at the

appropriate address, as provided below, no later than 5:00 p.m. on August 30, 1993.

ADDRESSES: Mail written comments (1 original and 3 copies) to the following address: Health Care Financing Administration, Department of Health and Human Services, Attention: BPD–633–P, P.O. Box 26688, Baltimore, MD 21207.

If you prefer, you may deliver your written comments (1 original and 3 copies) to one of the following addresses: Room 309–G, Hubert H. Humphrey Building, 200 Independence Ave., SW., Washington, DC 20201, or room 132, East High Rise Building, 6325 Security Boulevard, Baltimore, Maryland 21207.

Due to staffing and resource limitations, we cannot accept audio, visual, or facsimile (FAX) copies of comments.

If comments concern information collection or recordkeeping requirements, please address a copy of comments to: Office of Management and budget, Office of Information and Regulatory Affairs, Room 3206, New Executive Office Building, Washington, DC 20503, Attention: Allison Herron Eydt.

In commenting, please refer to file code BPD–633–P. Comments received timely will be available for public inspection as they are received, beginning approximately three weeks after publication of this document, in Room 309–G of the Department's offices at 200 Independence Ave., SW., Washington, DC, on Monday through Friday of each week from 8:30 a.m. to 5 p.m. (phone: 202–690–7890).

FOR FURTHER INFORMATION CONTACT: Joyce Eng, (410) 966–4619.

SUPPLEMENTARY INFORMATION:

I. Background

Hospitals must meet certain conditions of participation in order to participate in the Medicare program. These conditions are intended to protect patient health and safety and to ensure that high-quality care is provided to Medicare patients.

Regulations containing the Medicare conditions of participation for hospitals are located in the Code of Federal Regulations at 42 CFR part 482, with the conditions for hospital laboratory services at § 482.27. The laboratory regulations at § 482.27 are relatively general because the more detailed requirements for laboratories appear in part 493, which sets forth requirements for all laboratories participating in the Medicare, Medicaid, and Clinical Laboratories Improvement Act programs. Part 493 was added to the CFR on March 14, 1990 (55 FR 9538).

The Human Immunodeficiency Virus (HIV) is a virus whose presence is associated with Acquired Immune Deficiency Syndrome (AIDS). Receipt of potentially HIV infectious blood and blood products does not mean that a person will get AIDS, but it indicates a likelihood that one may, depending upon the recipient's immunity and other factors.

In response to scientific data that show HIV is transmissible through blood and blood products, the Food and Drug Administration (FDA) has implemented an extensive system of additional donor screening and testing procedures, performed before, during, and after donation takes place, to help prevent the transfusion of blood and blood products that are potentially contaminated with HIV. The FDA continues to monitor blood donor issues and updates its recommendations as more information becomes available.

The Social Security Administration operates a Blood Donor Locator Service (BDLS) to enable States and authorized blood donation facilities to notify blood donors whose donations indicate that they are or may be infected with HIV. Section 205(c)(2)(D) of the Act permits States to require a blood donor to furnish his or her Social Security number (SSN) to a State agency or to an authorized blood donation facility. With the SSN, an authorized blood donation facility may request the State to contact the BDLS to obtain the donor's last known personal mailing address. The State agency may also make a request on its own behalf for this information to the BDLS.

II. Provisions of the Regulations

This proposed rule would amend the conditions of participation for hospitals to require hospitals to develop agreements which would require outside blood banks to notify the hospitals when the blood banks have made potentially HIV infectious blood and blood products available to the hospitals. We also would require that the hospitals ensure that the recipients of the blood and blood products be notified and informed of the need for HIV testing and counseling. Testing persons for HIV could allow individuals who test positive to seek medical treatment and to change behavior so as not to infect others.

This proposed rule would set forth a new standard for hospitals at § 482.27, which sets forth standards for hospital laboratory services. Section 482.27(c)(1) would require that, when services are furnished to a hospital by an outside blood bank, there be an agreement governing the procurement, transfer and availability of blood and blood products specifying that the blood bank notify the hospital if potentially HIV infectious blood and blood products have been made available to the hospital. We are especially interested in receiving comments on whether this proposed requirement would be more appropriately implemented in the manner proposed, as part of a Medicare hospital standard, or as part of the FDA requirements applicable to blood banks.

Potentially HIV infectious blood and blood products would be defined as blood and blood products from a donor whose licensed or approved screening test shows the presence of HIV and whose licensed or approved screening supplemental, more specific tests are positive or unavailable. An individual would be considered to be infected by HIV if the individual's results from the FDA's licensed or approved tests at 21 CFR 610.45 show the presence of HIV and if these screening results are confirmed by a licensed or approved supplemental, more specific test.

A new paragraph (c)(2) would require that, if a hospital has administered potentially HIV infectious blood and blood products, the hospital must first make several attempts to notify the recipient's attending physician (physician of record) and ask the physician to inform the recipient of the need for HIV testing and counseling. Then, if the physician is unavailable or declines to notify the recipient, the hospital must make several attempts to notify the recipient and inform the recipient of the need for HIV testing and counseling. The notification must be confidential. The hospital is responsible for notification, including basic explanations to the recipient and referral for counseling.

We believe that the hospital's notification effort should consist of, at the minimum, several attempts by phone or in writing to reach the attending physician and then, the recipient. The hospital's notification effort should begin immediately after receiving word from the blood bank and be completed eight weeks later. We would require that the hospital document the attempts to notify the attending physician, the attempts to notify the recipient, and indicate whether the recipient was located. We specifically invite public comment on the sufficiency of this level of effort and on whether the notification should be done by certified mail marked "confidential".

In the proposed § 482.27(c)(2), we believe that the chain of notification

about the potentially infectious blood and blood products should be from the hospital to the recipient's attending physician (physician of record), and that only in rare situations would the recipient receive this notification from the hospital. We invite comment as to whether a regulation describing the mechanics of this notification is necessary and whether additional explanation is necessary to identify when the hospital should directly notify the recipient. We believe this proposed rule is self-explanatory, but that a stated timeframe may be necessary to determine when the recipient should be notified by the hospital if the attending physician cannot be reached by telephone.

If a hospital furnishes HIV testing or counseling, we do not anticipate that the hospital will furnish these services without costs. It may choose to furnish the services and bill the recipient, or it may refer the recipient to a public health agency or a laboratory. Medicare and Medicaid would pay for services they cover (coverage would vary, depending on which program was used and which services were furnished). Private insurance may pay for non-Medicare or non-Medicaid patients.

We have not yet determined whether these new requirements should be independently verified by a survey or whether hospitals accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and the American Osteopathic Association (AOA) can be assumed to meet these requirements. Because accreditation standards change regularly, this proposed new requirement may well be incorporated into the accreditation programs of the JCAHO and the AOA. When a final regulation is published, we will announce whether accreditation by one of these organizations creates presumptive compliance or whether a compliance survey will be performed.

This proposed rule addresses hospital requirements only, because we believe the overwhelming majority of blood and blood products are furnished in hospitals. However, we welcome public comment regarding the need to develop similar requirements for other types of facilities.

III. Regulatory Impact Analysis

Executive Order 12291 (E.O. 12291) requires us to prepare and publish a regulatory impact analysis for any proposed rule that meets one of the E.O. 12291 criteria for a "major rule"; that is, that would be likely to result in—

- An annual effect on the economy of $100 million or more;
- A major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or
- Significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

In addition, we generally prepare a regulatory flexibility analysis that is consistent with the Regulatory Flexibility Act (RFA) (5 U.S.C. 601 through 612) unless the Secretary certifies that a proposed rule would not have a significant economic impact on a substantial number of small entities. For purposes of the RFA, we consider all hospitals, blood banks and physicians to be small entities.

Also, section 1102(b) of the Act requires the Secretary to prepare a regulatory impact analysis if a proposed rule may have a significant impact on the operations of a substantial number of small rural hospitals. Such an analysis must conform to the provisions of section 603 of the RFA. For purposes of section 1102(b) of the Act, we define a small rural hospital as a hospital with fewer than 50 beds located outside of a Metropolitan Statistical Area.

This proposed rule would add a new paragraph (c) to § 482.27 regarding the notification of a patient when potentially HIV infectious blood and blood products have been administered. These proposed regulations do not affect blood testing required by § 493.1269 ("Condition: Immunohematology").

From 1988 through 1991, the risk of HIV transmission via blood and blood products transfusion has been estimated to be between 1 in 38,000 and 1 in 153,000. Appropriate efforts to further reduce the risk have occurred by public education, improved tests, donor questionnaires, and revised criteria for donor self-referral. However, it remains possible, despite the best practices of a blood bank, that a person might donate blood and blood products early in infection, during the "window" period, when the test for anti-HIV remains negative but HIV is present in the person's blood. Section 482.24 ("Condition of participation: Medical record services.") currently requires hospitals to maintain records for a period of 5 years. We expect hospitals would identify recipients of blood and blood products and furnish appropriate notice to the extent to which they have maintained records that permit them to do so.

As for ongoing activities, we anticipate that only a small number of cases per year can be traced to potentially HIV infectious transfused blood and blood products, and thus, we do not expect these proposed regulations would result in a substantial economic or resource burden on hospitals, blood banks or physicians. We do not have estimates of the additional cost due to the HIV counseling and subsequent testing that would be required, but since the services would be covered for those persons eligible to receive Medicare and Medicaid benefits, if they meet other eligibility and coverage requirements, we believe the effect on beneficiaries, even in high risk areas, would be minimal. To the extent possible, private insurance may also pay, or, if the State has a program, the Ryan White Comprehensive AIDS Resource Emergency Act of 1990 (Pub. L. 101–381) may cover some of these services. In addition, since many hospitals, blood banks, and physicians are currently voluntarily complying with the requirements of these proposed regulations, new effects due to these proposed regulations are not expected to be substantial. We expect the continued cost of implementing this regulation after the initial implementation to be small because the risk of a person being transfused with potentially HIV infectious blood and blood products is declining. Even though this proposed rule would affect few people per year after initial implementation, public awareness of the HIV issue dictates that we address it by taking steps to ensure that potentially infected people are notified so they may seek appropriate medical care or consider behavior changes so as not to infect others.

As part of this proposed rule, blood banks with records that permit them to do so may notify hospitals of potentially HIV infectious blood and blood products provided in past years. Recipients of potentially HIV infectious blood and blood products would need to be notified and informed of the need for HIV testing and counseling. Since it is extremely important to notify these individuals that they have the potential to transmit the HIV virus to others, it is necessary that they be identified and notified, and that their status be assessed. This is critical to the epidemiology of AIDS.

For the reasons cited above, we do not believe these proposed regulations would meet any of the criteria for a major rule, therefore we are not including an initial regulatory impact analysis.

In addition, since we have determined, and the Secretary certifies, that this proposed rule would not be

likely to have a significant economic impact on a substantial number of small entities or on the operations of a substantial number of small rural hospitals, we are not preparing analyses for either the RFA or small rural hospitals.

IV. Information Collection Requirements

Section 482.27(c)(2) of this proposed rule contains information collection requirements that are subject to review by the Office of Management and Budget (OMB) under the authority of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). This section requires that, if potentially HIV infectious blood and blood products are administered, regardless of the source of the blood, a hospital must first make several attempts to notify the recipient's attending physician and ask the physician to inform the recipient of the need for HIV testing and counseling. Then, if the physician is unavailable, or declines to notify the recipient, the hospital must make several attempts to notify the recipient and inform the recipient of the need for HIV testing and counseling. The hospital must also document the notification or attempts to notify the attending physician and the recipient. Public reporting burden for the collection of information is estimated to be 1 hour per response. A notice will be published in the **Federal Register** if approval is obtained. Other organizations and individuals desiring to submit comments regarding the burden estimate or any aspect of this collection of information, including suggestions for reducing this burden, should direct them to the OMB official whose name appears in the "ADDRESSES" section of this preamble.

V. Response to Comments

Because of the large number of items of correspondence we normally receive on a proposed rule, we are not able to acknowledge or respond to them individually. However, we will consider all comments that we receive by the date and time specified in the "DATES" section of this preamble, and if we proceed with a final rule, we will respond to the comments in the preamble of that rule.

List of Subjects in 42 CFR Part 482

Hospitals, Medicaid, Medicare, Reporting and recordkeeping requirements.

For the reasons set forth in the preamble, Chapter IV, 42 CFR 482.27 would be amended as follows:

PART 482—CONDITIONS OF PARTICIPATION FOR HOSPITALS

1. The authority citation for Part 482 continues to read as follows:

Authority: Secs. 1102, 1136, 1138, 1814(a)(6), 1861(e), (f), (k), (r), (v)(1)(G), (z), and (ee), 1864, 1871, 1883, 1886, 1902(a)(30), and 1905(a) of the Social Security Act (42 U.S.C. 1302, 1302b-6, 1338, 1395f(a)(6), 1395x(e), (f), (k), (r), (v)(1)(G), (z), and (ee), 1395aa, 1395hh, 1395tt, 1395ww, 1396a(a)(30), and 1396(a)).

2. In § 482.27, a new paragraph (c) is added as follows:

§ 482.27 Condition of participation: Laboratory services.

* * * * *

(c) Standard: Infectious blood and blood products.

(1) When services are furnished by an outside blood bank, the hospital must have an agreement governing the procurement, transfer, and availability of blood and blood products. The agreement must require that the blood bank notify the hospital if potentially HIV infectious blood and blood products have been made available to the hospital. "Potentially HIV infectious blood and blood products" is defined as blood and blood products from a donor whose licensed or approved screening test shows the presence of HIV and whose licensed or approved screening supplemental, more specific tests are positive or unavailable.

An individual would be considered to be infected by HIV if the individual's results from the FDA's licensed or approved tests at 21 CFR 610.45 show the presence of HIV, and if these screening results are confirmed by a licensed or approved supplemental, more specific test.

(2) If a hospital has administered potentially HIV infectious blood and blood products, the hospital must make several attempts to notify the recipient's attending physician (physician of record) and ask him or her to inform the recipient of the need for HIV testing and counseling. If the physician is unavailable or declines to notify the recipient, the hospital must make several attempts to notify the recipient and inform the recipient of the need for HIV testing and counseling. The hospital is responsible for notification, including basic explanations to the recipient and referral for counseling, and must document the notification or attempts to notify the attending physician and the recipient.

(Catalog of Federal Domestic Assistance Program No. 93.774, Medicare—Supplementary Medical Insurance.)

Dated: March 2, 1993.

William Toby, Jr.,

Acting Deputy Administrator, Health Care Financing Administration.

Approved: May 19, 1993.

Donna E. Shalala,

Secretary.

[FR Doc. 93–15357 Filed 6–29–93; 8:45 am]

BILLING CODE 4120-01-P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 76

[MM Docket No. 93–25, DA 93–760]

Cable Television Services; Implementation of Section 25 of the Cable Television Act, Direct Broadcast Satellite Public Service Obligations

AGENCY: Federal Communications Commission.

ACTION: Proposed rule; extension of reply comment period.

SUMMARY: The Commission granted a request by the Association of America's Public Television Stations for a two-week extension of the deadline for filing reply comments in this proceeding. The Commission determined that the extension of time was warranted in light of the complexity and novelty of the issues raised in this proceeding. This action will facilitate the development of a full and complete record on these issues.

DATES: Reply comments are now due on July 14, 1993.

ADDRESSES: Federal Communications Commission, Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: Andrew J. Rhodes, Mass Media Bureau, (202) 632–5414.

SUPPLEMENTARY INFORMATION:

Order Granting Extension of Time To File Reply Comments

In the Matter of Implementation of Section 25 of the Cable Television Consumer Protection and Competition Act of 1992; Direct Broadcast Satellite Public Service Obligations.

Adopted: June 23, 1993; Released: June 24, 1993; Reply Comment Date: July 14, 1993.

1. On March 2, 1993, the Commission released a Notice of Proposed Rule Making ("Notice") in this proceeding, soliciting comment on the imposition of public service obligations on providers of direct broadcast satellite video programming.[1] The deadline for filing

[1] 8 FCC Rcd 1589 (1993), 58 F R. 12917 (March 8, 1993).

eply comments is currently June 30, 1993.

2. On June 21, 1993, a motion for extension of time for filing reply comments was filed by the Association of America's Public Television Stations ("APTS"). The motion requests that the deadline for filing reply comments be extended by two weeks to July 14, 1993.

3. APTS contends, among other things, that the extension of time is necessary to analyze the complicated issues raised in this proceeding and the numerous sets of comments that have been filed. Moreover, APTS has been and is involved in a number of other legal activities related to implementation of the 1992 Cable Act with strict participation deadlines during this comment and reply period. Also, APTS is in a unique position to represent the interests of a significant constituency in this rulemaking proceeding.

4. Although § 1.46 of the Commission's Rules provides that extensions of time should not be routinely granted, we believe that a two week extension of time to file reply comments is warranted in light of the complexity and novelty of the issues raised in this proceeding. This brief extension of time should facilitate the development of a full and complete record on these issues and should not prejudice the parties in this proceeding.

5. Accordingly, *it is ordered*, That the motion for extension of time filed by the Association of America's Public Television Stations is granted and that the time for filing reply comments in MM Docket 93–25 is hereby extended to July 14, 1993.

6. This action is taken pursuant to authority found in sections 4(i), 4(j), and 303(r) of the Communications Act of 1934, as amended, and §§ 0.204(b), 0.283, and 1.45–46 of the Commission's Rules.

Federal Communications Commission.

Roy J. Stewart,

Chief, Mass Media Bureau.

[FR Doc. 93–15375 Filed 6–29–93; 8:45 am]

BILLING CODE 6712-01-M

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 285

Atlantic Tuna Fisheries; Public Hearings

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Notice of an additional public hearing.

SUMMARY: NMFS will hold an additional public hearing in Bath, Maine, on June 28, 1993, from 7 p.m. to 10 p.m. This is in addition to those hearings already scheduled that appeared in the **Federal Register** on June 21, 1993 (58 FR 33793). The hearings are scheduled to receive comments on the proposed regulations governing the Atlantic tuna fisheries. This additional meeting was scheduled after industry contracts expressed concern that it was not practical for the large fishing community in Maine to attend the other hearings.

DATES: Comments on the proposed rule that is the subject of these hearings must be received on or before July 8, 1993. See **SUPPLEMENTARY INFORMATION** for dates and times of the hearings.

ADDRESSES: Written comments should be sent to Richard H. Schaefer, Director, Office of Fisheries Conservation and Management (F/CM), National Marine Fisheries Service, 1335 East-West Highway, Silver Spring, MD 20910. Clearly mark the outside of the envelope "Tuna Comments." Copies of the proposed rule are available from the same address.

See **SUPPLEMENTARY INFORMATION** for addresses of the hearing locations.

FOR FURTHER INFORMATION CONTACT: Richard B. Stone, 301–713–2347.

SUPPLEMENTARY INFORMATION: This notice is to announce an additional public hearing to those already scheduled hearings that appeared in the **Federal Register** on June 21, 1993 (58 FR 33793). The hearings are scheduled to receive comments on a proposed rule to amend the regulations governing the Atlantic tuna fisheries (58 FR 32894, June 14, 1993). A summary of the measures, and the purpose and need for the proposed action, are contained in the previous **Federal Register** notice of public hearings, and are not repeated here. A complete description of the measures, and the purpose and need for the proposed action, are contained in the proposed rule. Copies of the proposed rule may be obtained by writing (see **ADDRESSES**) or calling the contact person above.

The public hearing schedule is revised to read as follows:

June 28, 1993, Bath, ME, 7–10 p.m.
Morse High School Auditorium, 826 High St., Bath, ME 04530, (207) 443–8250

June 29, 1993, Portsmouth, NH, 7–10 p.m.
Elwyn (Urban) Forestry Center, 45 Elwyn Rd., Portsmouth, NH 03801, (603) 431–6774

June 30, 1993, New Bedford, MA, 7–10 p.m.
Seaport Inn, 110 Middle St., Fairhaven, MA 02719, (508) 997–1281

July 1, 1993, Toms River, NJ, 7–10 p.m.
Ocean County Community College Auditorium, College Drive, P.O. Box 2001, Toms River, NJ 08754–2001, (908) 255–0326

July 2, 1993, Ronkonkoma, NY, 7–10 p.m.
Holiday Inn (Airport), 3845 Veterans Memorial Highway, Ronkonkoma, NY 11779, (516) 585–9500

July 6, 1993, Norfolk, VA, 7–10 p.m.
Quality Inn, 6280 Northampton Blvd., Norfolk, VA 23502, (804) 461–6251

After consulting with fishing industry representatives in the Gulf of Mexico, a decision was reached that a public hearing in that area was not necessary. If NMFS receives information that contradicts this decision, a hearing at a later date will be scheduled there.

Dated: June 23, 1993.

David S. Crestin,

Acting Director, Office of Fisheries Conservation and Management, National Marine Fisheries Service.

[FR Doc. 93–15349 Filed 6–24–93; 4:41 pm]

BILLING CODE 3510-22-M

50 CFR Parts 285 and 630

Receipt of Petition for Rulemaking; Center for Marine Conservation

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Notice of receipt of petition for rulemaking; extension of comment period.

SUMMARY: NMFS announces that it is extending the comment period on the Center for Marine Conservation's (CMC's) petition for rulemaking in the pair trawl fishery to July 8, 1993.

In order to coincide further comments received on this petition with those on an Atlantic tuna proposed rule dealing with similar issues, NMFS is extending the comment period.

DATES: Comments on the petition are requested through July 8, 1993.

ADDRESSES: Comments on the petition should be directed to: Nancy Foster, Assistant Administrator (Acting), National Marine Fisheries Service, 1335 East-West Highway, Silver Spring, MD 20910 (Attention: Richard Stone—F/CM4). Please indicate in the letter that your comment is in response to the "CMC Petition for Rulemaking."

FOR FURTHER INFORMATION CONTACT: Regarding Fishery Management Plan

issues, please contact Aaron King, 301–713–2347; regarding ESA and MMPA issues, please contact Victoria Credle at 301–713–2322. Copies of the Center for Marine Conservation's petition for rulemaking are available upon request. Also available are aggregated data on catch of target species and bycatch in the pair trawl fishery as collected by observers during the fall of 1992.

SUPPLEMENTARY INFORMATION: A **Federal Register** notice acknowledging a CMC petition for rulemaking on pair trawling, and requesting public comment over a 30-day comment period, was published on April 26, 1993, at 58 FR 21967. In order to coincide further comments received on this petition with those on an Atlantic tunas proposed rule (published on June 8, 1993, 58 FR 32894) dealing with similar issues, NMFS is extending the comment period on the CMC petition to July 8, 1993 (the end of the proposed rule comment period).

Comments will continue to be solicited on the CMC requests to (1) amend guidelines for Fishery Management Plans (FMPs) to limit the use of new fishing gear, and (2) amend the Swordfish FMP and other FMPs to regulate pair trawling as an experimental fishery. The request to recategorize the pair trawl fishery from a Category II to a Category I fishery has already been considered in the 1993 List of Fisheries (see Interim Final List of Fisheries, 58 FR 32905, June 14, 1993). The request to reinitiate consultation under section 7 of the Endangered Species Act has been denied based on the lack of any new evidence indicating greater interactions between pair trawl gear and endangered or threatened species than previously considered.

Further information is available from the **Federal Register** notice of receipt of petition for rulemaking.

Dated: June 24, 1993.

David S. Crestin,

Acting Director, Office of Fisheries Conservation and Management, National Marine Fisheries Service.

[FR Doc. 93–15352 Filed 6–29–93; 8:45 am]

BILLING CODE 3510-22-M

50 CFR Part 669

Reef Fish Fishery of Puerto Rico and the U.S. Virgin Islands

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Notice of availability of an amendment to a fishery management plan and request for comments.

SUMMARY: NMFS announces that the Caribbean Fishery Management Council has submitted Amendment 2 to the Fishery Management Plan for the Shallow-Water Reef Fish Fishery of Puerto Rico and the U.S. Virgin Islands (FMP) for review by the Secretary of Commerce (Secretary). The amendment is available for public review and comments are requested from the public.

EFFECTIVE DATE: Written comments must be received on or before August 26, 1993.

ADDRESSES: Comments should be mailed to the Southeast Regional Office, NMFS, 9450 Koger Boulevard, St. Petersburg, FL 33702. Copies of Amendment 2, which contains a draft regulatory impact review/initial regulatory flexibility analysis/ supplemental environmental impact statement, may be obtained from the Caribbean Fishery Management Council, 268 Ave Muñoz Rivera, suite 1108, San Juan, PR 00918–2577.

FOR FURTHER INFORMATION CONTACT: Miguel A. Rolon, 809–753–6910 or William R. Turner, 813–893–3161.

SUPPLEMENTARY INFORMATION: The Magnuson Fishery Conservation and Management Act (Magnuson Act) (16 U.S.C. 1801 *et seq.*) requires that a council-prepared fishery management plan or amendment be submitted to the Secretary for review and approval, disapproval, or partial disapproval. The Magnuson Act also requires that the Secretary, upon receiving an amendment, immediately publish a notice that it is available for public review and comment. The Secretary will consider public comment in determining approvability of the amendment.

Amendment 2 to the FMP proposes to (1) expand the management unit to incorporate species comprising the most important components of the deep-water reef fish fishery and finfish species taken in the marine aquarium trade; (2) add measures to reverse the decline of certain reef fish species; (3) restrict harvest and gear for various species; (4) close spawning aggregation areas for red hind and mutton snapper; and (5) revise certain fish trap restrictions, including authorizing the use of 18-gauge ungalvanized wire as fasteners on escape panels when a zinc anode is not attached to the trap. Based on a preliminary review of Amendment 2, the Secretary has disapproved the provision in Amendment 2 that would have authorized the use of 18-gauge ungalvanized wire as fasteners on traps because this measure was determined to be inconsistent with national standard 2 requiring measures to be based on the best available scientific information. The use of such wire has not been scientifically tested to determine if its degradation time would prevent overfishing. Amendment 2 also makes several recommendations to the local governments of Puerto Rico and the U.S. Virgin Islands regarding mandatory permitting and reporting requirements, monitoring landings of red and tiger grouper, establishing marine coral reef reserves, and extending current local regulations that prohibit the introduction of exotic species in freshwater to marine waters.

Proposed regulations to implement Amendment 2, less the disapproved measure for wire trap fasteners, are scheduled for publication within 15 days.

Dated: June 25, 1993.

David S. Crestin,

Acting Director, Office of Fisheries Conservation and Management, National Marine Fisheries Service

[FR Doc. 93–15410 Filed 6–29–93; 8:45 am]

BILLING CODE 3510-22-M

Notices

Federal Register
Vol. 58, No. 124
Wednesday, June 30, 1993

This section of the FEDERAL REGISTER contains documents other than rules or proposed rules that are applicable to the public. Notices of hearings and investigations, committee meetings, agency decisions and rulings, delegations of authority, filing of petitions and applications and agency statements of organization and functions are examples of documents appearing in this section.

DEPARTMENT OF AGRICULTURE

Federal Grain Inspection Service

Designation of the Schneider (IN) Agency and the State of Georgia

AGENCY: Federal Grain Inspection Service (FGIS), USDA.

ACTION: Notice.

SUMMARY: FGIS announces the designation of Schneider Inspection Service, Inc. (Schneider), and the Georgia Department of Agriculture (Georgia) to provide official inspection services under the United States Grain Standards Act, as amended (Act).

EFFECTIVE DATE: August 1, 1993.

ADDRESSES: Homer E. Dunn, Chief, Review Branch, Compliance Division, FGIS, USDA, room 1647 South Building, P.O. Box 96454, Washington, DC 20090–6454.

FOR FURTHER INFORMATION CONTACT: Homer E. Dunn, telephone 202–720–8525.

SUPPLEMENTARY INFORMATION:

This action has been reviewed and determined not to be a rule or regulation as defined in Executive Order 12291 and Departmental Regulation 1512–1; therefore, the Executive Order and Departmental Regulation do not apply to this action.

In the January 28, 1993, **Federal Register** (58 FR 6382), FGIS announced that the designations of Schneider and Georgia end on July 31, 1993, and asked persons interested in providing official services within the specified geographic areas to submit an application for designation. Applications were due by March 1, 1993.

Schneider and Georgia, the only applicants, each applied for the entire area currently assigned to them. FGIS named and requested comments on the applicants for designation in the March 31, 1993, **Federal Register** (58 FR 16810). Comments were due by April 30, 1993. FGIS received one comment by the deadline. This comment, submitted by a grain firm, supported designation of Schneider.

FGIS evaluated all available information regarding the designation criteria in section 7(f)(1)(A) of the Act; and according to section 7(f)(1)(B), determined that Schneider and Georgia are able to provide official services in the geographic areas for which they applied.

Effective August 1, 1993, and ending July 31, 1996, Schneider and Georgia are designated to provide official inspection services in the geographic area specified in the January 28, 1993, **Federal Register**.

Interested persons may obtain official services by contacting Schneider at 219–992–2306, and Georgia at 912–386–3130.

Authority: Pub. L. 94–582, 90 Stat. 2867, as amended (7 U.S.C. 71 *et seq.*).

Dated: June 23, 1993.

Neil E. Porter,

Director, Compliance Division.

[FR Doc. 93–15250 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–EN–F

Request for Applications From Persons Interested in Designation To Provide Official Services in the Geographic Areas Presently Assigned to the Decatur (IL) and McCrea (IA) Agencies, and the State of South Carolina (SC)

AGENCY: Federal Grain Inspection Service (FGIS), USDA.

ACTION: Notice.

SUMMARY: The United States Grain Standards Act, as amended (Act), provides that official agency designations shall end not later than triennially and may be renewed. The designations of Decatur Grain Inspection, Inc. (Decatur), John R. McCrea Agency, Inc. (McCrea), and the South Carolina Department of Agriculture (South Carolina) will end December 31, 1993, according to the Act, and FGIS is asking persons interested in providing official services in the specified geographic areas to submit an application for designation.

DATES: Applications must be postmarked or sent by telecopier (FAX) on or before July 30, 1993.

ADDRESSES: Applications must be submitted to Homer E. Dunn, Chief, Review Branch, Compliance Division, FGIS, USDA, room 1647 South Building, P.O. Box 96454, Washington, DC 20090–6454. Telecopier (FAX) users may send applications to the automatic telecopier machine at 202–720–1015, attention: Homer E. Dunn. If an application is submitted by telecopier, FGIS reserves the right to request an original application. All applications will be made available for public inspection at this address located at 1400 Independence Avenue, SW., during regular business hours.

FOR FURTHER INFORMATION CONTACT: Homer E. Dunn, telephone 202–720–8525.

SUPPLEMENTARY INFORMATION:

This action has been reviewed and determined not to be a rule or regulation as defined in Executive Order 12291 and Departmental Regulation 1512–1; therefore, the Executive Order and Departmental Regulation do not apply to this action.

Section 7(f)(1) of the Act authorizes FGIS' Administrator to designate a qualified applicant to provide official services in a specified area after determining that the applicant is better able than any other applicant to provide such official services.

FGIS designated Decatur, main office located in Decatur, Illinois; McCrea, main office located in Clinton, Iowa; and South Carolina, main office located in Columbia, South Carolina, to provide official grain inspection services under the Act on January 1, 1990.

Section 7(g)(1) of the Act provides that designations of official agencies shall end not later than triennially and may be renewed according to the criteria and procedures prescribed in section 7(f) of the Act. The designations of Decatur, McCrea, and South Carolina end on December 31, 1993. The geographic area presently assigned to Decatur, in the State of Illinois, pursuant to section 7(f)(2) of the Act, which will be assigned to the applicant selected for designation is as follows:

Bounded on the North by the northern and eastern DeWitt County lines; the eastern Macon County line south to Interstate 72; Interstate 72 northeast to the eastern Piatt County line;

Bounded on the East by the eastern Piatt, Moultrie, and Shelby County lines;

Bounded on the South by the southern Shelby County line; a straight

line running along the southern Montgomery County line west to State Route 16 to a point approximately one mile northeast of Irving; and

Bounded on the West by a straight line from this point northeast to Stonington on State Route 48; a straight line from Stonington northwest to Elkhart on Interstate 55; a straight line from Elkhart northeast to the west side of Beason on State Route 10; State Route 10 east to DeWitt County; the western DeWitt County line.

Exceptions to Decatur's assigned geographic area are the following locations inside Decatur's area which have been and will continue to be serviced by the following official agencies:

1. Champaign-Danville Grain Inspection Departments, Inc.: Moultrie Grain Association, Cadwell, Moultrie County; Tabor and Company, Weedman Grain Company, and Pacific Grain Company, all in Farmer City, DeWitt County; and Monticello Grain Company, Monticello, Piatt County; and

2. Springfield Grain Inspection, Inc.: Chestervale Elevator Company, Chestervale, Logan County.

The geographic area presently assigned to McCrea, in the States of Illinois and Iowa, pursuant to section 7(f)(2) of the Act, which may be assigned to the applicant selected for designation is as follows:

Carroll and Whiteside Counties, Illinois.

Clinton and Jackson Counties, Iowa.

The geographic area presently assigned to South Carolina, pursuant to section 7(f)(2) of the Act, which will be assigned to the applicant selected for designation, is the entire State of South Carolina, except those export port locations within the State.

Interested persons, including Decatur, McCrea, and South Carolina are hereby given the opportunity to apply for designation to provide official services in the geographic areas specified above under the provisions of section 7(f) of the Act and § 800.196(d) of the regulations issued thereunder. Designation in the specified geographic areas is for the period beginning January 1, 1994, and ending December 31, 1996. Persons wishing to apply for designation should contact the Compliance Division at the address listed above for forms and information.

Applications and other available information will be considered in determining which applicant will be designated.

Authority: Pub. L. 94–582, 90 Stat. 2867, as amended (7 U.S.C. 71 *et seq.*).

Dated: June 23, 1993.

Neil E. Porter,

Director, Compliance Division.

[FR Doc. 93–15249 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–EN–F

Request for Comments on the Applicant for Designation in the Geographic Area Currently Assigned to the Hastings (NE) Agency

AGENCY: Federal Grain Inspection Service (FGIS), USDA.

ACTION: Notice.

SUMMARY: FGIS requests interested persons to submit comments on the applicant for designation to provide official services in the geographic area currently assigned to Hastings Grain Inspection, Inc. (Hastings).

DATES: Comments must be postmarked, or sent by telecopier (FAX) or electronic mail by July 30, 1993.

ADDRESSES: Comments must be submitted in writing to Homer E. Dunn, Chief, Review Branch, Compliance Division, FGIS, USDA, room 1647 South Building, P.O. Box 96454, Washington, DC 20090–6454. SprintMail users may respond to [A:ATTMAIL,O:USDA,ID:A36HDUNN]. ATTMAIL and FTS2000MAIL users may respond to !A36HDUNN. Telecopier (FAX) users may send comments to the automatic telecopier machine at 202–720–1015, attention: Homer E. Dunn. All comments received will be made available for public inspection at the above address located at 1400 Independence Avenue, SW., during regular business hours.

FOR FURTHER INFORMATION CONTACT: Homer E. Dunn, telephone 202–720–8525.

SUPPLEMENTARY INFORMATION:

This action has been reviewed and determined not to be a rule or regulation as defined in Executive Order 12291 and Departmental Regulation 1512–1; therefore, the Executive Order and Departmental Regulation do not apply to this action.

In the April 29, 1993, **Federal Register** (58 FR 25965), FGIS asked persons interested in providing official services in the geographic area assigned to Hastings to submit an application for designation. Applications were due by May 31, 1993. Hastings, the only applicant, applied for the area currently assigned to it. FGIS is publishing this notice to provide interested persons the opportunity to present comments concerning Hastings. Commenters are encouraged to submit reasons and pertinent data for support or objection to the designation of Hastings. All comments must be submitted to the Compliance Division at the above address.

Comments and other available information will be considered in making a final decision. FGIS will publish notice of the final decision in the **Federal Register**, and FGIS will send the applicant written notification of the decision.

Authority: Pub. L. 94–582, 90 Stat. 2867, as amended (7 U.S.C. 71 *et seq.*).

Dated: June 23, 1993.

Neil E. Porter,

Director, Compliance Division.

[FR Doc. 93–15248 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–EN–F

Request for Comments on the Applicants for Designation in the Fort Worth (TX) Area

AGENCY: Federal Grain Inspection Service (FGIS), USDA.

ACTION: Notice.

SUMMARY: FGIS requests interested persons to submit comments on the applicants for designation to provide official services in the Fort Worth geographic area presently assigned to Amarillo Grain Exchange, Inc. (Amarillo).

DATES: Comments must be postmarked, or sent by telecopier (FAX) or electronic mail by July 30, 1993.

ADDRESSES: Comments must be submitted in writing to Homer E. Dunn, Chief, Review Branch, Compliance Division, FGIS, USDA, room 1647 South Building, P.O. Box 96454, Washington, DC 20090–6454. SprintMail users may respond to [A:ATTMAIL,O:USDA,ID:A36HDUNN]. ATTMAIL and FTS2000MAIL users may respond to !A36HDUNN. Telecopier (FAX) users may send comments to the automatic telecopier machine at 202–720–1015, attention: Homer E. Dunn. All comments received will be made available for public inspection at the above address located at 1400 Independence Avenue, SW., during regular business hours.

FOR FURTHER INFORMATION CONTACT: Homer E. Dunn, telephone 202–720–8525.

SUPPLEMENTARY INFORMATION:

This action has been reviewed and determined not to be a rule or regulation as defined in Executive Order 12291 and Departmental Regulation 1512–1; therefore, the Executive Order and Departmental Regulation do not apply to this action.

In the April 29, 1993, **Federal Register** (58 FR 25966), FGIS asked persons interested in providing official services in the Fort Worth area presently assigned to Amarillo to submit an application for designation. Applications were due by May 31, 1993. There were two applicants: William K. Mathews proposing to incorporate and do business as North Texas Grain Inspection, Inc., and Basil B. Aumiller. Both applied for the entire Fort Worth area, but would accept less than the entire area. FGIS also requested comments on the need for official services in the Fort Worth area. FGIS received comments from two grain firms and the Fort Worth Grain Exchange requesting that official services be provided in the Fort Worth area.

FGIS is publishing this notice to provide interested persons the opportunity to present comments concerning the applicants. Commenters are encouraged to submit reasons and pertinent data for support or objection to the designation of the applicant. All comments must be submitted to the Compliance Division at the above address.

Comments and other available information will be considered in making a final decision. FGIS will publish notice of the final decision in the **Federal Register**, and FGIS will send the applicant written notification of the decision.

Authority: Pub. L. 94–582, 90 Stat. 2867, as amended (7 U.S.C. 71 *et seq.*).

Dated: June 23, 1993.

Neil E. Porter,

Director, Compliance Division.

[FR Doc. 93–15247 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–EN–F

Animal and Plant Health Inspection Service

[Docket No. 93–078–1]

Availability of Environmental Assessments and Findings of No Significant Impact

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Notice.

SUMMARY: We are advising the public that 10 environmental assessments and findings of no significant impact have been prepared by the Animal and Plant Health Inspection Service relative to the issuance of permits to allow the field testing of genetically engineered organisms. The environmental assessments provide a basis for our conclusion that the field testing of these genetically engineered organisms will not present a risk of introducing or disseminating a plant pest and will not have a significant impact on the quality of the human environment. Based on its findings of no significant impact, the Animal and Plant Health Inspection Service has determined that environmental impact statements need not be prepared.

ADDRESSES: Copies of the environmental assessments and findings of no significant impact are available for public inspection at USDA, room 1141, South Building, 14th Street and Independence Avenue SW., Washington, DC, between 8 a.m. and 4:30 p.m., Monday through Friday, except holidays. Persons wishing to inspect those documents are encouraged to call ahead on (202) 690–2817 to facilitate entry into the reading room.

FOR FURTHER INFORMATION CONTACT: Dr. Arnold Foudin, Deputy Director, Biotechnology Permits, BBEP, APHIS, USDA, room 850, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, (301) 436–7612. For copies of the environmental assessments and findings of no significant impact, write to Mr. Clayton Givens at the same address. Please refer to the permit numbers listed below when ordering documents.

SUPPLEMENTARY INFORMATION: The regulations in 7 CFR part 340 (referred to below as the regulations) regulate the introduction (importation, interstate movement, and release into the environment) of genetically engineered organisms and products that are plant pests or that there is reason to believe are plant pests (regulated articles). A permit must be obtained before a regulated article may be introduced into the United States. The regulations set forth the procedures for obtaining a limited permit for the importation or interstate movement of a regulated article and for obtaining a permit for the release into the environment of a regulated article. The Animal and Plant Health Inspection Service (APHIS) has stated that it would prepare an environmental assessment and, when necessary, an environmental impact statement before issuing a permit for the release into the environment of a regulated article (see 52 FR 22906).

In the course of reviewing each permit application, APHIS assessed the impact on the environment that releasing the organisms under the conditions described in the permit application would have. APHIS has issued permits for the field testing of the organisms listed below after concluding that the organisms will not present a risk of plant pest introduction or dissemination and will not have a significant impact on the quality of the human environment. The environmental assessments and findings of no significant impact, which are based on data submitted by the applicants and on a review of other relevant literature, provide the public with documentation of APHIS' review and analysis of the environmental impacts associated with conducting the field tests.

Environmental assessments and findings of no significant impact have been prepared by APHIS relative to the issuance of permits to allow the field testing of the following genetically engineered organisms:

Permit No.	Permittee	Date issued	Organisms	Field test location
93–026–04	University of California, Berkeley.	05–26–93	*Pseudomonas syringae*, genetically engineered for reduced epiphytic fitness.	California.
93–033–02	Pioneer Hi-Bred International, Incorporated.	05–26–93	Sunflower plants genetically engineered to express a methionine-rich seed storage protein from Brazil nut.	North Dakota.
93–063–05	American Crystal Sugar Company.	05–26–93	Sugarbeet plants genetically engineered to express two genes for tolerance to the herbicide glyphosate.	North Dakota.

Permit No.	Permittee	Date Issued	Organisms	Field test location
93–012–01	University of Idaho	05–28–93	Potato plants genetically engineered to express potyvirus- and luteovirus-derived genes to obtain resistance to potato virus Y (PVY) or potato leaf roll virus (PLRV).	Idaho.
93–085–02	Upjohn Company	05–28–93	Lettuce plants genetically engineered to express resistance to tomato spotted wilt virus.	Georgia.
93–088–01	Louisiana State University.	05–28–93	Rice plants genetically engineered to express tolerance to the phosphinothricin class of herbicides and resistance to hygromycin.	Louisiana.
93–074–06	Upjohn Company	06–04–93	Cucumber plants genetically engineered to express resistance to certain fungal plant pathogens.	Georgia.
93–088–02	University of Wisconsin	06–04–93	Alfalfa plants genetically engineered to express industrial enzymes.	Wisconsin.
93–090–02	DuPont Agricultural Products.	06–04–93	Rapeseed plants genetically engineered to express modified fatty acids in seeds.	Idaho.
93–105–01, renewal of permit 92–164–02, issued on 07–30–92.	Michigan State University.	06–04–93	Melon plants genetically engineered to express resistance to zucchini yellow mosaic virus.	Michigan.

The environmental assessments and findings of no significant impact have been prepared in accordance with:

(1) The National Environmental Policy Act of 1969 (NEPA)(42 U.S.C. 4321 *et seq.*);

(2) Regulations of the Council on Environmental Quality for Implementing the Procedural Provisions of NEPA (40 CFR parts 1500–1508);

(3) USDA Regulations Implementing NEPA (7 CFR part 1b); and

(4) APHIS Guidelines Implementing NEPA (44 FR 50381–50384, August 28, 1979, and 44 FR 51272–51274, August 31, 1979).

Done in Washington, DC, this 23rd day of June 1993.

Terry L. Medley,

Acting Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 93–15405 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–34–P

[Docket No. 93–069–1]

Availability of Environmental Assessments and Findings of No Significant Impact Relative to Issuance of Permits to Field Test Genetically Engineered Organisms

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Notice.

SUMMARY: We are advising the public that two environmental assessments and findings of no significant impact have been prepared by the Animal and Plant Health Inspection Service relative to the issuance of permits to allow the field testing of genetically engineered organisms. The environmental assessments provide a basis for our conclusion that the field testing of these genetically engineered organisms will not present a risk of introducing or disseminating a plant pest and will not have a significant impact on the quality of the human environment. Based on its findings of no significant impact, the Animal and Plant Health Inspection Service has determined that environmental impact statements need not be prepared.

ADDRESSES: Copies of the environmental assessments and findings of no significant impact are available for public inspection at USDA, room 1141, South Building, 14th Street and Independence Avenue SW., Washington, DC, between 8 a.m. and 4:30 p.m., Monday through Friday, except holidays. Persons wishing to inspect those documents are encouraged to call ahead on (202) 690–2817 to facilitate entry into the reading room.

FOR FURTHER INFORMATION CONTACT: Dr. Arnold Foudin, Deputy Director, Biotechnology Permits, BBEP, APHIS, USDA, room 850, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, (301) 436–7612. For copies of the environmental assessments and findings of no significant impact, write to Mr. Clayton Givens at the same address. Please refer to the permit numbers listed below when ordering documents.

SUPPLEMENTARY INFORMATION: The regulations in 7 CFR part 340 (referred to below as the regulations) regulate the introduction (importation, interstate movement, and release into the environment) of genetically engineered organisms and products that are plant pests or that there is reason to believe are plant pests (regulated articles). A permit must be obtained before a regulated article may be introduced into the United States. The regulations set forth the procedures for obtaining a limited permit for the importation or interstate movement of a regulated article and for obtaining a permit for the release into the environment of a regulated article. The Animal and Plant Health Inspection Service (APHIS) has stated that it would prepare an environmental assessment and, when necessary, an environmental impact statement before issuing a permit for the release into the environment of a regulated article (see 52 FR 22906).

In the course of reviewing each permit application, APHIS assessed the impact on the environment that releasing the organisms under the conditions described in the permit application would have. APHIS has issued permits for the field testing of the organisms listed below after concluding that the organisms will not present a risk of plant pest introduction or dissemination and will not have a significant impact on the quality of the human environment. The environmental assessments and findings of no significant impact, which are based on data submitted by the applicants and on a review of other relevant literature, provide the public with documentation of APHIS' review and analysis of the environmental impacts associated with conducting the field tests.

Environmental assessments and findings of no significant impact have been prepared by APHIS relative to the issuance of permits to allow the field testing of the following genetically engineered organisms:

Permit No.	Permittee	Date issued	Organisms	Field test location
93–056–02, renewal of permit 91–43–01, issued on 05–10–91.	Louisiana State University.	05–19–93	Rice plants genetically engineered to express a delta-endotoxin from *Bacillus thuringiensis* subsp. *soto* for resistance to lepidopteran insects, and to express bean and rice storage proteins.	Louisiana.
93–053–02	Upjohn Company	05–20–93	Squash plants genetically engineered to express resistance to cucumber mosaic virus, watermelon mosaic virus 2, and zucchini yellow mosaic virus.	California, Georgia, Oregon, Texas.

The environmental assessments and findings of no significant impact have been prepared in accordance with: (1) The National Environmental Policy Act of 1969 (NEPA)(42 U.S.C. 4321 *et seq.*), (2) Regulations of the Council on Environmental Quality for Implementing the Procedural Provisions of NEPA (40 CFR parts 1500–1508), (3) USDA Regulations Implementing NEPA (7 CFR part 1b), and (4) APHIS Guidelines Implementing NEPA (44 FR 50381–50384, August 28, 1979, and 44 FR 51272–51274, August 31, 1979).

Done in Washington, DC, this 23rd day of June 1993.

Terry L. Medley,

Acting Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 93–15404 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–34–P

[Docket No. 93–068–1]

Availability of List of U.S. Veterinary Biological Product and Establishment Licenses and U.S. Veterinary Biological Product Permits Issued, Suspended, Revoked, or Terminated

AGENCY: Animal and Plant Health Inspection Service, USDA.

ACTION: Notice.

SUMMARY: This notice pertains to veterinary biological product and establishment licenses and veterinary biological product permits that were issued, suspended, revoked, or terminated by the Animal and Plant Health Inspection Service, during the month of April 1993. These actions have been taken in accordance with the regulations issued pursuant to the Virus-Serum-Toxin Act. The purpose of this notice is to inform interested persons of the availability of a list of these actions and advise interested persons that they may request to be placed on a mailing list to receive the list.

FOR FURTHER INFORMATION CONTACT: Ms. Maxine Kitto, Program Assistant, Veterinary Biologics, BBEP, APHIS, USDA, room 838, Federal Building, 6505 Belcrest Road, Hyattsville, MD 20782, (301) 436–8245. For a copy of this month's list, or to be placed on the mailing list, write to Ms. Kitto at the above address.

SUPPLEMENTARY INFORMATION: The regulations in 9 CFR part 102, "Licenses For Biological Products," require that every person who prepares certain biological products that are subject to the Virus-Serum-Toxin Act (21 U.S.C. 151 *et seq.*) shall hold an unexpired, unsuspended, and unrevoked U.S. Veterinary Biological Product License. The regulations set forth the procedures for applying for a license, the criteria for determining whether a license shall be issued, and the form of the license.

The regulations in 9 CFR part 102 also require that each person who prepares biological products that are subject to the Virus-Serum-Toxin Act (21 U.S.C. 151 *et seq.*) shall hold a U.S. Veterinary Biologics Establishment License. The regulations set forth the procedures for applying for a license, the criteria for determining whether a license shall be issued, and the form of the license.

The regulations in 9 CFR part 104, "Permits for Biological Products," require that each person importing biological products shall hold an unexpired, unsuspended, and unrevoked U.S. Veterinary Biological Product Permit. The regulations set forth the procedures for applying for a permit, the criteria for determining whether a permit shall be issued, and the form of the permit.

The regulations in 9 CFR parts 102 and 105 also contain provisions concerning the suspension, revocation, and termination of U.S. Veterinary Biological Product Licenses, U.S. Veterinary Biologics Establishment Licenses, and U.S. Veterinary Biological Product Permits.

Each month, the Veterinary Biologics section of Biotechnology, Biologics, and Environmental Protection prepares a list of licenses and permits that have been issued, suspended, revoked, or terminated. This notice announces the availability of the list for the month of April 1993. The monthly list is also mailed on a regular basis to interested persons. To be placed on the mailing list you may call or write the person designated under **FOR FURTHER INFORMATION CONTACT.**

Done in Washington, DC, this 23rd day of June 1993.

Terry L. Medley,

Acting Administrator, Animal and Plant Health Inspection Service.

[FR Doc. 93–15406 Filed 6–29–93; 8:45 am]

BILLING CODE 3410–34–P

Farmers Home Administration

Springhill Subdivision Project, Charles Town, WV; Notice of Intent To Prepare Environmental Impact Statement; Public Scoping Meeting

AGENCY: Farmers Home Administration, USDA.

ACTION: Notice of intent to prepare a Draft Environmental Impact Statement.

SUMMARY: The notice is hereby given that the U.S. Army Corps of Engineers under the direction of the Farmers Home Administration (FmHA), Morgantown, West Virginia is gathering information in order to prepare an Environmental Impact Statement (EIS) for a proposal to develop the proposed Springhill Subdivision Project, located in Charles Town, West Virginia. The proposed project endeavors to provide affordable housing for the Charles Town and surrounding area. The development of the Springhill Subdivision Project creates the potential for significant environmental and socio-economic impacts; therefore a draft EIS (DEIS) will be prepared to analyze these potential impacts.

DATES: FmHA is scheduling a public scoping meeting on the Springhill Subdivision Project DEIS for Tuesday, July 13, 1993, at 6 p.m. All interested parties are encouraged to attend and participate in this meeting. This meeting will be held to determine the scope and significant issues to be analyzed in depth in the DEIS. Notice of this meeting will be published in local newspapers. Written comments concerning the scope of the analysis must be received by July 30, 1993.

ADDRESSES: Send written comments to William D. Harman, State Environmental Coordinator, USDA, FmHA, Federal Building, room 320, 75 High Street, Morgantown, WV 26505–7500, (304) 291–4248. The public scoping meeting will be held at the Public Library, 200 E. Washington Street, Charles Town, West Virginia.

FOR FURTHER INFORMATION CONTACT: Questions about the proposed project and DEIS should be directed to William D. Harman, State Environmental Coordinator, Phone: (304) 291–4248.

SUPPLEMENTARY INFORMATION: 1. The proposed Springhill Subdivision will be developed by Marcus Enterprises, 608 E. Washington Street, Charles Town, West Virginia, Phone: (304) 725–9233.

2. The proposed development will consist of:

a. 315 single family homes;
b. 155 townhouses;
c. A recreation area;
d. A daycare center;
e. Two bus and mail drop-offs; and
f. A protected 6.35 acre wetland area.

In addition a vegetated buffer strip will be established on the south side of the development between the houses and the Baltimore & Ohio Railroad and wetlands.

3. These efforts have been discussed at meetings and workshops with concerned area residents. Public involvement will continue throughout the development of the DEIS in the form of workshops and information furnished to the local media. Federal, State, and local agencies, as well as, other affected and concerned organizations will be notified of all scheduled meetings through published notices in local newspapers and direct notification with concerned parties.

4. Several potentially significant environmental impacts have been identified. These are:

a. Impacts on existing wetlands;
b. Impacts on the possibility of Endangered and Threatened Species being present in the existing wetland area;
c. Socio-economic impacts;
d. Impacts to cultural resources;
e. Impacts on existing aquatic and terrestrial resources.

In addition to the above potential impacts, any significant impacts developed during the environmental impact analysis or brought out as part of the scoping meeting shall be addressed and presented in the DEIS.

5. The DEIS will be developed under the guidance, requirements, and format in 40 CFR 1502.10, "Recommended Format". Consultation will be conducted with the U.S. Fish and Wildlife Service and the Environmental Protection Agency during the DEIS process, pursuant to the requirements of the Fish and Wildlife Coordination Act 16 U.S.C. *661 et seq. (Pub. L. 85–624), the Heritage Conservation and Recreation Service and State Historical Preservation Act of 1966 (80 Stat. 915) (Pub. L. 89–655), and the Preservation of Historic and Archaeological Data (88 Stat. 174) (Pub. L. 93–291) and Executive Order 11593 (Protection and Enhancement of the Cultural Environment). In addition, any other interested groups or organizations will be welcomed as active participants in the DEIS process.

6. Alternatives under consideration are reduction in project size and alternative sites.

Dated: June 24, 1993.

Sharron S. Longino,

Acting Administrator, Farmers Home Administration.

[FR Doc. 93–15374 Filed 6–29–93; 8:45 am]

BILLING CODE 3410-07-M

DEPARTMENT OF COMMERCE

Agency Form Under Review by the Office of Management and Budget (OMB)

DOC has submitted to OMB for clearance the following proposal for collection of information under the provisions of the Paperwork Reduction Act (44 U.S.C. chapter 35).

Agency: International Trade Administration.

Title: Application for License to Enter Watches and Watch Movements into the Customs Territory of the U.S. (Pub. L. 97–446).

Form Number: Agency—ITA–334P; 15 CFR 303 OMB—0625–0040.

Type of Request: Extension of a currently approved collection.

Burden: 6 respondents; 6 reporting hours.

Average Hours Per Response: 1 hour.

Needs and Uses: Public Law 97–446 requires the Departments of Commerce and the Interior to administer the distribution of duty-exemptions and duty-refunds involving up to $5 million annually to watch producers in the U.S. Territories and the Northern Mariana Islands. The annual allocation and production incentive certificate for each producer are based on data supplied from Form ITA–334P. The form is completed annually by each producer. It is also used by new firms making application for entitlements for the first time.

Affected Public: Businesses or other for profit; small businesses or organizations.

Frequency: Annually.

Respondent's Obligation: Required to obtain or retain a benefit.

OMB Desk Officer: Gary Waxman (202) 395–7340.

Copies of the above information collection proposal can be obtained by calling or writing DOC Clearance Officer, Edward Michals, (202) 482–3271, Department of Commerce, room 5327, 14th and Constitution Avenue, NW., Washington, DC 20230.

Written comments and recommendations for the proposed information collection should be sent to Gary Waxman, OMB Desk Officer, room 3208, New Executive Office Building, Washington, DC 20503.

Dated: June 25, 1993.

Edward Michals,

Departmental Clearance Officer, Office of Management and Organization.

[FR Doc. 93–15442 Filed 6–29–93; 8:45 am]

BILLING CODE 3510-CW-M

Economic Development Administration

Petitions by Producing Firms for Determination of Eligibility To Apply for Trade Adjustment Assistance

AGENCY: Economic Development Administration (EDA).

ACTION: To give firms an opportunity to comment.

Petitions have been accepted for filing on the dates indicated from the firms listed below.

Firm name	Address	Date petition accepted	Product
Sandvik Rock Tools, Inc	8760 Clay Road, Houston, TX 77080	05/24/93	Boring or Sinking Machinery.

Firm name	Address	Date petition accepted	Product
Hawaiian Green House, Inc	P.O. Box L (Hwy 130), Pahoa, HI 96778 .	05/24/93	Anthuriums.
Green Point Nurseries	P.O. Box 4400 (811 Kealakai St.), Hilo, HI 926720.	05/24/93	Tropical Flowers.
Senior Systems Technology, Inc	20150 Sunburst Street, Chatsworth, CA 91311.	05/27/93	Electronic Assemblies and Printed Circuit Boards.
Dotson Wheel Corporation, Inc	Route 2, Box AA, Saltville, VA 24370	05/27/93	Carbon Steel is Bent, Machine Soldered to Form Wheels, Rims and Parts for Earth Moving Equipment.
Belle Dream, Inc	501 A Bellfork Road, Jacksonville, NC 28540.	05/31/93	Women's & Girls' Bathing Suits, Sportswear, Sleepwear and Graduation.
Richard and Rita deGroen	12424 164th Avenue SE, Renton, WA 98059.	05/31/93	Machined Aircraft Parts.
Seattle Telecom & Data, Inc	2735 152nd Avenue Northeast, Redmond, WA 98052.	06/02/93	Motherboards.
Alloy Tool & Mold Mfg. Corp	200 Meister Avenue, North Branch, NJ 08876.	06/02/93	Molds of Aluminum & Brass to be used to Produce Blow Mold Plastic Containers.
Windham Industries, Inc	100 Passaic Street, Garfield, NJ 07026	06/04/93	Women's Sweaters.
EMA Capital, Inc	1816 West 135 Street, Gardena, CA 90249.	06/04/93	Electic Table, Desk and Floorstand Lamps.
Coleman Cable Systems, Inc	2500 Commonwealth Avenue, North Chicago, IL 60064.	06/08/93	Copper Wire.
Taee Group, Inc	8868 Research Blvd. #406, Austin, TX 78758.	06/08/93	Wrist Watch Bands.
Interstate Forging Industries, Inc	4051 North 27th Street, Milwaukee, Wi 53216–1883.	06/08/93	Parts for Oilfield Services Equipment, Tractors and Mining, Transmission, Military, Trucks & Auto.
Hasco Spring Industries, Inc	10600 Gratiot, Detroit, MI 48213	06/08/93	Flat Spiral Counter Balance Springs.
Gulf Valve Company	6511 Winfree, Houston, TX 77087	06/09/93	Check Valves.
Coastal Industries, Inc. dba OIC Valve Corporation.	7021 Portwest Dr., Suite 100, Houston TX 77024.	06/10/93	Check Valves.
Mc Alpin Industries, Inc	255 Hollenbeck Street, Rochester, NY 14621.	06/10/93	Metal Enclosure for Office Equipment and Copier Wiper Blades.
Alpha Circuits, Inc	1304 Langham Creek Dr., Suite 200, Houston, TX 77084–5076.	06/10/93	Printed Circuit Boards.
American Glove Co., Inc	P.O. Box 277, Alpine Street, Lyerly, GA 30730..	6/10/93	Work Gloves.
International Sensor Systems, Inc	P.O. Box 345, Industrial Park, Aurora, NE 68818.	06/10/93	Hybrid Thick Film Printed Circuit Badges.
Younger Manufacturing Co., Realite Optical, Inc.	3788 South Broadway Place, Los Angeles, CA 90007.	06/10/93	Ophthalmic Lenses.
Papaya Orchards of Hawaii, Inc	800 Leilani Street, Hilo, HI 96720	06/16/93	Fruit Puree.
ILC Technology, Inc	399 Java Drive, Sunnyvale, CA 94089	06/16/93	Flash, Arc, and Infrared Lamps.

The petitions were submitted pursuant to section 251 of the Trade Act of 1974 (19 U.S.C. 2341). Consequently, the United States Department of Commerce has initiated separate investigations to determine whether increased imports into the United States of articles like or directly competitive with those produced by each firm contributed importantly to total or partial separation of the firm's workers, or threat thereof, and to a decrease in sales or production of each petitioning firm.

Any party having a substantial interest in the proceedings may request a public hearing on the matter. A request for a hearing must be received by the Trade Adjustment Assistance Division, room 7023, Economic Development Administration, U.S. Department of Commerce, Washington, DC 20230, no later than the close of business of the tenth calendar day following the publication of this notice.

The Catalog of Federal Domestic Assistance official program number and title of the program under which these petitions are submitted is 11.313, Trade Adjustment Assistance.

Dated: June 23, 1993.

David L. McIlwain,

Acting Deputy Assistant Secretary for Program Operations.

[FR Doc. 93–15446 Filed 6–29–93; 8:45 am]

BILLING CODE 3510-24-M

International Trade Administration

Export Trade Certificate of Review

ACTION: Notice of application to amend certificate.

SUMMARY: The Office of Export Trading Company Affairs, International Trade Administration, Department of Commerce, has received an application to amend an Export Trade Certificate of Review. This notice summarizes the proposed amendment and requests comments relevant to whether the Certificate should be issued.

FOR FURTHER INFORMATION CONTACT: George Muller, Director, Office of Export Trading Company Affairs, International Trade Administration, 202/482–5131. This is not a toll-free number.

SUPPLEMENTARY INFORMATION: Title III of the Export Trading Company Act of 1982 (15 U.S.C. 4001–21) authorizes the Secretary of Commerce to issue Export Trade Certificates of Review. A Certificate of Review protects the holder and the members identified in the Certificate from state and federal

government antitrust actions and from private, treble damage antitrust actions for the export conduct specified in the Certificate and carried out in compliance with its terms and conditions. Section 302(b)(1) of the Act and 15 CFR 325.6(a) require the Secretary to publish a notice in the **Federal Register** identifying the applicant and summarizing its proposed export conduct.

Request for Public Comments

Interested parties may submit written comments relevant to the determination whether an amended Certificate should be issued. An original and five (5) copies should be submitted no later than 20 days after the date of this notice to: Office of Export Trading Company Affairs, International Trade Administration, Department of Commerce, room 1800H, Washington, DC 20230. Information submitted by any person is exempt from disclosure under the Freedom of Information Act (5 U.S.C. 552). Comments should refer to this application as "Export Trade Certificate of Review, application number 85–4A018."

U.S. Shippers Association's original Certificate was issued on June 3, 1986. It was subsequently amended on January 16, 1990 and on November 13, 1990. A summary of the original Certificate was published in the **Federal Register** on June 6, 1986 [51 FR 20873]. A summary of the application for amendment follows.

Summary of the Application:

Applicant: U.S. Shippers Association, 1209 Orange St., Wilmington, DE 19801.

Application No.: 85–4A018.

Date Deemed Submitted: June 24, 1993.

Proposed Amendment: The U.S. Shippers Association seeks to amend its Certificate to add the following additional companies as "Members" within the meaning of § 325.21 of the Regulations (15 CFR 325.2(1)): ARCO Chemical Company, Newton Square, PA (Controlling entity: Atlantic Richfield Company, Inc.); and Solvay Minerals, Inc., Houston, TX (Controlling entity: Solvay, S.A.).

Dated: June 24, 1993.

George Muller,

Director, Office of Export Trading Company Affairs.

[FR Doc. 93–15447 Filed 6–29–93; 8:45 am]

BILLING CODE 3510-DR-M

International Trade Administration, Commerce.

Export Trade Certificate of Review

ACTION: Notice of issuance of an Amended Export Trade Certificate of Review, Application No. 91–A0007.

SUMMARY: The Department of Commerce has issued an amendment to the Export Trade Certificate of Review granted to the National Association of Energy Service Companies ("NAESCO") on June 23, 1993. The original Certificate was issued on January 21, 1992. Notice of issuance of the Certificate was published in the **Federal Register** on February 12, 1992 (57 FR 5133).

FOR FURTHER INFORMATION CONTACT: George Muller, Director, Office of Export Trading Company Affairs, International Trade Administration, (202) 482–5131. This is not a toll-free number.

SUPPLEMENTARY INFORMATION: Title III of the Export Trading Company Act of 1982 (15 U.S.C. 4001–21) authorizes the Secretary of Commerce to issue Export Trade Certificates of Review. The regulations implementing title III are found at 15 CFR part 325 (1993) (50 FR 1804, January 11, 1985).

The Office of Export Trading Company Affairs is issuing this notice pursuant to 15 CFR 325.6(b), which requires the Department of Commerce to publish a summary of a Certificate in the **Federal Register**. Under section 305(a) of the Act and 15 CFR 325.11(a), any person aggrieved by the Secretary's determination may, within 30 days of the date of this notice, bring an action in any appropriate district court of the United States to set aside the determination on the ground that the determination is erroneous.

Description of Amended Certificate

NAESCO's Export Trade Certificate of Review has been amended to add Energy Performance Services, Inc. of Houston Texas and its Subsidiary—Energy Performance Services of North America, Inc. of Montreal, Quebec Canada as "Members" within the meaning of § 325.2(1) of the Regulations (15 CFR 325.2(1)), and the Certificate has been amended to remove Energy Investment, Inc. of Boston, Massachusetts. Furthermore, the definition of "Export Trade" has been amended to read as follows: "Export Trade means trade or commerce in Products, Services, Export Trade Facilitation Services and Technology Rights exported, or in the course of being exported, from the United States or any territory thereof to the Export Markets."

Correction

The date deemed submitted in the original Federal Register Notice (58 FR 17572, April 5, 1993) for the NAESCO amendment (Application No. 91–A0007) was incorrect. The correct date deemed submitted is March 25, 1993 instead of March 25, 1992.

A copy of the amended certificate will be kept in the International Trade Administration's Freedom of Information Records Inspection Facility, room 4102, U.S. Department of Commerce, 14th Street and Constitution Avenue NW., Washington, DC 20230.

Dated: June 23, 1993.

George Muller,

Director, Office of Export Trading Company Affairs.

[FR Doc. 93–15435 Filed 6–29–93; 8:45 am]

BILLING CODE 3510-DR-M

COMMITTEE FOR THE IMPLEMENTATION OF TEXTILE AGREEMENTS

Adjustment of Import Limits for Certain Cotton and Man-Made Fiber Textile Products Produced or Manufactured in China

June 24, 1993.

AGENCY: Committee for the Implementation of Textile Agreements (CITA).

ACTION: Issuing a directive to the Commissioner of Customs adjusting limits.

EFFECTIVE DATE: June 24, 1993.

FOR FURTHER INFORMATION CONTACT: Janet Heinzen, International Trade Specialist, Office of Textiles and Apparel, U.S. Department of Commerce, (202) 482–4212. For information on the quota status of these limits, refer to the Quota Status Reports posted on the bulletin boards of each Customs port or call (202) 927–6703. For information on embargoes and quota re-openings, call (202) 482–3715.

SUPPLEMENTARY INFORMATION:

Authority: Executive Order 11651 of March 3, 1972, as amended; section 204 of the Agricultural Act of 1956, as amended (7 U.S.C. 1854).

The current limits for Categories 334 and 347/348 are being increased by application of swing, reducing the limit for Category 607 to account for the increases.

A description of the textile and apparel categories in terms of HTS numbers is available in the CORRELATION: Textile and Apparel Categories with the Harmonized Tariff

Schedule of the United States (see **Federal Register** notice 57 FR 54976, published on November 23, 1992). Also see 57 FR 62304, published on December 30, 1992.

The letter to the Commissioner of Customs and the actions taken pursuant to it are not designed to implement all of the provisions of the bilateral agreement, but are designed to assist only in the implementation of certain of its provisions.

Rita D. Hayes,

Chairman, Committee for the Implementation of Textile Agreements.

Committee for the Implementation of Textile Agreements

June 24, 1993.

Commissioner of Customs,
Department of the Treasury, Washington, DC 20229.

Dear Commissioner: This directive amends, but does not cancel, the directive issued to you on December 23, 1992, by the Chairman, Committee for the Implementation of Textile Agreements. That directive concerns imports of certain cotton, wool, man-made fiber, silk blend and other vegetable fiber textiles and textile products, produced or manufactured in China and exported during the twelve-month period which began on January 1, 1993 and extends through December 31, 1993.

Effective on June 24, 1993, you are directed to amend further the directive dated December 23, 1992 to adjust the limits for the following categories, as provided under the terms of the current bilateral agreement between the Governments of the United States and the People's Republic of China:

Category	Adjusted twelve-month limit [1]
Levels not in a group	
334	302,770 dozen.
347/348	2,445,054 dozen.
607	2,113,672 kilograms.

[1] The limits have not been adjusted to account for any imports exported after December 31, 1992.

The Committee for the Implementation of Textile Agreements has determined that these actions fall within the foreign affairs exception to the rulemaking provisions of 5 U.S.C. 553(a)(1).

Sincerely,

Rita D. Hayes,

Chairman, Committee for the Implementation of Textile Agreements.

[FR Doc. 93–15440 Filed 6–29–93; 8:45 am]

BILLING CODE 3510-DR-F

Establishment of an Import Limit for Certain Wool Textile Products Produced or Manufactured in Costa Rica

June 24, 1993.

AGENCY: Committee for the Implementation of Textile Agreements (CITA).

ACTION: Issuing a directive to the Commissioner of Customs establishing a limit.

EFFECTIVE DATE: July 1, 1993.

FOR FURTHER INFORMATION CONTACT: Nicole Bivens Collinson, International Trade Specialist, Office of Textiles and Apparel, U.S. Department of Commerce, (202) 482–4212. For information on the quota status of this limit, refer to the Quota Status Reports posted on the bulletin boards of each Customs port or call (202) 927–5850. For information on embargoes and quota re-openings, call (202) 482–3715. For information on categories on which consultations have been requested, call (202) 482-3740.

SUPPLEMENTARY INFORMATION:

Authority: Executive Order 11651 of March 3, 1972, as amended; section 204 of the Agricultural Act of 1956, as amended (7 U.S.C. 1854).

Inasmuch as recent consultations have not resulted in a mutually satisfactory solution on Category 447, the United States Government has decided to control imports in this category for the twelve-month period beginning on February 25, 1993 and extending through February 24, 1994 at a level of 7,971 dozen.

The United States remains committed to finding a solution concerning this category. Should such a solution be reached in further consultations with the Government of Costa Rica, further notice will be published in the **Federal Register**.

A description of the textile and apparel categories in terms of HTS numbers is available in the CORRELATION: Textile and Apparel Categories with the Harmonized Tariff Schedule of the United States (see **Federal Register** notice 57 FR 54976, published on November 23, 1992). Also see 58 FR 13059, published on March 9, 1993.

Rita D. Hayes,

Chairman, Committee for the Implementation of Textile Agreements.

Committee for the Implementation of Textile Agreements

June 24, 1993.

Commissioner of Customs,
Department of the Treasury, Washington, DC 20229.

Dear Commissioner: Under the terms of section 204 of the Agricultural Act of 1956, as amended (7 U.S.C. 1854), and the Arrangement Regarding International Trade in Textiles done at Geneva on December 20, 1973, as further extended on December 9, 1992; and in accordance with the provisions of Executive Order 11651 of March 3, 1972, as amended, you are directed to prohibit, effective on July 1, 1993, entry into the United States for consumption and withdrawal from warehouse for consumption of wool textile products in Category 447, produced or manufactured in Costa Rica and exported during the period beginning on February 25, 1993 and extending through February 24, 1994, in excess of 7,971 dozen [1].

Textile products in Category 447 which have been exported to the United States prior to February 25, 1993 shall not be subject to the limit established in this directive.

The Committee for the Implementation of Textile Agreements has determined that this action falls within the foreign affairs exception of the rulemaking provisions of 5 U.S.C. 553(a)(1).

Sincerely,

Rita D. Hayes,

Chairman, Committee for the Implementation of Textile Agreements.

[FR Doc. 93–15438 Filed 6–29–93; 8:45 am]

BILLING CODE 3510-DR-F

Amendment and Adjustment of Import Limits and Establishment of a Sublimit for Certain Cotton and Man-Made Fiber Textile Products Produced or Manufactured in Malaysia

June 24, 1993.

AGENCY: Committee for the Implementation of Textile Agreements (CITA).

ACTION: Issuing a directive to the Commissioner of Customs amending and adjusting limits and establishing a sublimit.

EFFECTIVE DATE: July 1, 1993.

FOR FURTHER INFORMATION CONTACT: Jennifer Aldrich, International Trade Specialist, Office of Textiles and Apparel, U.S. Department of Commerce, (202) 482–4212. For information on the quota status of these limits, refer to the Quota Status Reports posted on the bulletin boards of each Customs port or call (202) 927–6712. For information on embargoes and quota re-openings, call (202) 482–3715.

SUPPLEMENTARY INFORMATION:

Authority: Executive Order 11651 of March 3, 1972, as amended; section 204 of the Agricultural Act of 1956, as amended (7 U.S.C. 1854).

In a Memorandum of Understanding (MOU) dated May 5, 1993, the

[1] The limit has not been adjusted to account for any imports exported after February 24, 1993.

Governments of the United States and Malaysia agreed to amend their current bilateral agreement for 1993 to increase the base level for cotton trousers in Categories 347/348 and establish a sublimit for woven trousers in Categories 347–W/348–W. The new levels for Categories 347/348 and 347–W/348–W include a reduction for carryforward used in the 1992 agreement year.

Also, the current levels for certain other categories are being reduced for carryforward used.

A description of the textile and apparel categories in terms of HTS numbers is available in the CORRELATION: Textile and Apparel Categories with the Harmonized Tariff Schedule of the United States (see **Federal Register** notice 57 FR 54976, published on November 23, 1992). Also see 57 FR 54772, published on November 20, 1992.

The letter to the Commissioner of Customs and the actions taken pursuant to it are not designed to implement all of the provisions of the bilateral agreement and MOU, but are designed to assist only in the implementation of certain of their provisions.

Rita D. Hayes,

Chairman, Committee for the Implementation of Textile Agreements.

Committee for the Implementation of Textile Agreements

June 24, 1993.

Commissioner of Customs,
Department of the Treasury, Washington, DC 20229.

Dear Commissioner: This directive amends, but does not cancel, the directive issued to you on November 17, 1992, by the Chairman, Committee for the Implementation of Textile Agreements. That directive concerns imports of certain cotton, wool and man-made fiber textiles and textile products and silk blend and other vegetable fiber apparel, produced or manufactured in Malaysia and exported during the twelve-month period which began on January 1, 1993 and extends through December 31, 1993.

Effective on July 1, 1993, you are directed, pursuant to the Memorandum of Understanding (MOU) dated May 5, 1993, between the Governments of the United States and Malaysia, to increase the level for Categories 347/348 and establish a sublimit for Categories 347–W/348–W. Also, pursuant to the current bilateral textile agreement between the two governments, you are directed to reduce the limits for the remaining categories listed below.

Category	Twelve-month limit [1]
338/339	651,824 dozen.
347/348	333,450 dozen of which not more than 301,032 dozen shall be in Categories 347–W/348–W [2].
351/651	181,099 dozen.
634/635	586,517 dozen of which not more than 345,969 dozen shall be in Category 635.
638/639	302,210 dozen.

[1] The limits have not been adjusted to account for any imports exported after December 31, 1992.

[2] Category 347–W: only HTS numbers 6203.19.1020, 6203.19.4020, 6203.22.3020, 6203.22.3030, 6203.42.4005, 6203.42.4010, 6203.42.4015, 6203.42.4025, 6203.42.4035, 6203.42.4045, 6203.42.4050, 6203.42.4060, 6203.49.3020, 6210.40.2035, 6211.20.1520, 6211.20.3010 and 6211.32.0040; Category 348–W: only HTS numbers 6204 12.0030, 6204.19.3030, 6204.22.3040, 6204.22.3050, 6204.29.4034, 6204.62.3000, 6204.62.4005, 6204.62.4010, 6204.62.4020, 6204.62.4030, 6204.62.4040, 6204.62.4050, 6204.62.4055, 6204.62.4065, 6204.69.3010, 6204.69.9010, 6210.50.2035, 6211.20.1550, 6211.20.6010, 6211.42.0030 and 6217.90.0050.

The Committee for the Implementation of Textile Agreements has determined that these actions fall within the foreign affairs exception to the rulemaking provisions of 5 U.S.C. 553(a)(1).

Sincerely,

Rita D. Hayes,

Chairman, Committee for the Implementation of Textile Agreements.

[FR Doc. 93–15437 Filed 6–29–93; 8:45 am]

BILLING CODE 3510–DR–F

Amendment of Import Limits for Certain Cotton and Man-Made Fiber Textile Products Produced or Manufactured in Mexico

June 25, 1993.

AGENCY: Committee for the Implementation of Textile Agreements (CITA).

ACTION: Issuing a directive to the Commissioner of Customs increasing limits.

EFFECTIVE DATE: June 28, 1993.

FOR FURTHER INFORMATION CONTACT: Naomi Freeman, International Trade Specialist, Office of Textiles and Apparel, U.S. Department of Commerce, (202) 482–4212. For information on the quota status of these limits, refer to the Quota Status Reports posted on the bulletin boards of each Customs port or call (202) 927–6711. For information on embargoes and quota re-openings, call (202) 482–3715.

SUPPLEMENTARY INFORMATION:

Authority: Executive Order 11651 of March 3, 1972, as amended; section 204 of the Agricultural Act of 1956, as amended (7 U.S.C. 1854).

The U.S. Government has agreed to increase the Special Regime limits for Categories 338/339/638/639 and 352/652.

A description of the textile and apparel categories in terms of HTS numbers is available in the CORRELATION: Textile and Apparel Categories with the Harmonized Tariff Schedule of the United States (see **Federal Register** notice 57 FR 54976, published on November 23, 1992). Also see 58 FR 88, published on January 4, 1993.

The letter to the Commissioner of Customs and the actions taken pursuant to it are not designed to implement all of the provisions of the bilateral agreement, but are designed to assist only in the implementation of certain of its provisions.

Rita D. Hayes,

Chairman, Committee for the Implementation of Textile Agreements.

Committee for the Implementation of Textile Agreements

June 25, 1993.

Commissioner of Customs,
Department of the Treasury, Washington, DC 20229.

Dear Commissioner: This directive amends, but does not cancel, the directive issued to you on December 28, 1992, by the Chairman, Committee for the Implementation of Textile Agreements. That directive concerns imports of certain cotton, wool and man-made fiber textile products, produced or manufactured in Mexico and exported during the twelve-month period which began on January 1, 1993 and extends through December 31, 1993.

Effective on June 28, 1993, you are directed to amend the directive dated December 28, 1993 to increase the Special Regime limits for the following categories, as provided under the terms of the current bilateral agreement between the Governments of the United States and the United Mexican States. The Normal Regime sublimit for Categories 338/339/638/639 and the Normal Regime limit for Categories 352/652 remain unchanged.

Category	Adjusted twelve-month limit [1]
338/339/638/639	4,000,000 dozen.
352/652	3,700,000 dozen.

[1] The limits have not been adjusted to account for any imports exported after December 31, 1993.

The Committee for the Implementation of Textile Agreements has determined that these actions fall within the foreign affairs exception to the rulemaking provisions of 5 U.S.C. 553(a)(1).

Sincerely,

Rita D. Hayes,

Chairman, Committee for the Implementation of Textile Agreements.

[FR Doc. 93–15441 Filed 6–29–93; 8:45 am]

BILLING CODE 3510-DR-F

Notice of a New U.S. Policy on Illegal Transshipments

June 24, 1993.

AGENCY: Committee for the Implementation of Textile Agreements (CITA).

ACTION: Notice.

FOR FURTHER INFORMATION CONTACT: Julie Carducci, International Trade Specialist, Office of Textiles and Apparel, U.S. Department of Commerce, (202) 482–3400.

SUPPLEMENTARY INFORMATION:

Authority: Executive Order 11651 of March 3, 1972, as amended; section 204 of the Agricultural Act of 1956, as amended (7 U.S.C. 1854).

In order to curb the flow of illegal transshipment of textiles and apparel to the United States, the Committee for the Implementation of Textile Agreements (CITA) has adopted a new policy, effective immediately, for countries that are not members of the General Agreement on Tariffs and Trade (GATT) or the Arrangement Regarding International Trade in Textiles (MFA) and that do not have a bilateral textile agreement with the United States containing a consultation provision.

Under the new policy, when there is reasonable suspicion that textile and apparel imports arriving from a country are in circumvention of U.S. bilateral textile agreements or unilateral restraints with other countries, the United States Government will ask the country to allow a U.S. team of trained experts to conduct joint factory inspections with officials of the host government. The category or categories of textile product exports suspected of being illegally transshipped will be cited in the U.S. diplomatic note requesting permission to visit. The country will be given 15 working days to respond. If the country agrees to joint inspections, the United States Government will send a team as soon as possible, and during this time textile exports can continue to be imported into the United States, provided they do not disrupt the U.S. market. If the reply to the request for joint inspections is negative, then a notice of an embargo will be published in the **Federal Register** to inform the public. The embargo against that country's textile exports in the relevant category will take effect on a date certain. That date shall be published in the **Federal Register** and shall be the later of: (1) 45 U.S. working days after delivery of the request to the country or (2) 30 days after publication of the notice. However, if the country agrees to the joint inspections before expiration of the 45 U.S. working day period, then the embargo shall be suspended pending the inspection, and notice of such suspension shall be published in the **Federal Register.**

If inspection teams confirm adequate production in a country to justify the amount of imports entering the United States, no embargo will take effect. If the inspection team confirms that there is no production of the category in question, a complete or partial embargo will be imposed.

The provisions of the Administrative Procedures Act (5 U.S.C. 553) requiring notice of proposed rulemaking, the opportunity for public participation, and a delay in effective date are inapplicable because this policy falls within the foreign affairs exemption (5 U.S.C. 553(a)(1)).

Rita D. Hayes,

Chairman, Committee for the Implementation of Textile Agreements.

[FR Doc. 93–15439 Filed 6–29–93; 8:45 am]

BILLING CODE 3510-DR-F

COMMODITY FUTURES TRADING COMMISSION

Chicago Mercantile Exchange Proposed Rolling Spot Futures Contract on the Australian Dollar and Options on That Futures Contract

AGENCY: Commodity Futures Trading Commission.

ACTION: Notice of availability of the terms and conditions of proposed commodity futures and option contracts.

SUMMARY: The Chicago Mercantile Exchange (CME or Exchange) has applied for designation as a contract market in rolling spot Australian dollar futures and option contracts. The Director of the Division of Economic Analysis (Division) of the Commission, acting pursuant to the authority delegated by Commission Regulation 140.96, has determined that publication of the proposals for comment is in the public interest, will assist the Commission in considering the views of interested persons, and is consistent with the purposes of the Commodity Exchange Act.

DATES: Comments must be received on or before July 30, 1993.

ADDRESSES: Interested persons should submit their views and comments to Jean A. Webb, Secretary, Commodity Futures Trading Commission, 2033 K Street NW., Washington, DC 20581. Reference should be made to the CME rolling spot Australian dollar futures contract and the option on that futures contract.

FOR FURTHER INFORMATION CONTACT: Please contact Stephen Sherrod of the Division of Economic Analysis, Commodity Futures Trading Commission, 2033 K Street NW., Washington, DC 20581, telephone 202–254–7303.

SUPPLEMENTARY INFORMATION: Copies of the terms and conditions will be available for inspection at the Office of the Secretariat, Commodity Futures Trading Commission, 2033 K Street, NW., Washington, DC 20581. Copies of the terms and conditions can be obtained through the Office of the Secretariat by mail at the above address or by phone at (202) 254–6314.

Other materials submitted by the CME in support of the applications for contract market designation may be available upon request pursuant to the Freedom of Information Act (5 U.S.C. 552) and the Commission's regulations thereunder (17 CFR part 145 (1987)), except to the extent they are entitled to confidential treatment as set forth in 17 CFR 145.5 and 145.9. Requests for copies of such materials should be made to the FOI, Privacy and Sunshine Act Compliance Staff of the Office of the Secretariat at the Commission's headquarters in accordance with 17 CFR 145.7 and 145.8.

Any person interested in submitting written data, views, or arguments on the proposed terms and conditions, or with respect to other materials submitted by the CME, should send such comments to Jean A. Webb, Secretary, Commodity Futures Trading Commission, 2033 K Street, NW., Washington, DC 20581 by the specified date.

Issued in Washington, DC, on June 24, 1993.

Gerald D. Gay,

Director.

[FR Doc. 93–15394 Filed 6–29–93; 8:45 am]

BILLING CODE 6351-01-M

DEPARTMENT OF DEFENSE

Department of the Navy

Record of Decision for Disposal and Reuse of Naval Air Station Chase Field, Beeville, TX

Pursuant to section 102(2)(C) of the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality Regulations (40 CFR parts 1500–1508), the Department of the Navy announces its decision to dispose for reuse real property known as Naval Air Station (NAS) Chase Field, Beeville, Texas, including Naval Auxiliary Landing Field (NALF) Goliad and Chase Park family housing.

The Department of Defense has been directed by Congress to realign and reduce certain military operations pursuant to the Defense Base Closure and Realignment Act of 1990. NAS Chase Field, Beeville, Texas, was one of the bases directed for closure by the 1991 Defense Base Closure and Realignment Commission.

Draft and Final Environmental Impact Statements (DEIS/FEIS) were prepared by the Navy and distributed to federal and state agencies and elected officials, and to the interested public for review and comment. These documents described the potential environmental impacts associated with the following reuse alternatives: *NAS Chase Field:* (A) Correctional Facility/Community Redevelopment, and (B) Community Aviation/Mixed-Use, Chase Park family housing will likely continue to be used for housing purposes under either alternative. *NALF Goliad:* (A) Intensive Agricultural (Ostrich Farm), (B) Correctional Facility/Agricultural, and (C) Recreation/Conservation. The preferred environmental alternatives were construction of a correctional facility with other community redevelopment for NAS Chase Field and intensive agriculture for NALF Goliad. Comments on the DEIS centered on the need for timely approval of interim use agreements and the need for sufficient maintenance of the property before ultimate disposal. No substantive comments were received during the review period for the FEIS which ended on April 26, 1993.

For NAS Chase Field, the Navy proposes to convey the majority of buildings and non-aviation developed areas (approximately 284 acres) to the Texas Department of Criminal Justice (TDCJ). The TDCJ will use the property as a 4,000-bed correction facility, a TDCJ training center, and a maintenance, supply, and distribution center for the TDCJ in the South Texas area. The remainder of the property (approximately 1,488 acres), including airfield, hangars, aircraft maintenance facility, and the electronics maintenance facility, is proposed to be conveyed for use as a municipal airport as well as light industrial facilities or other compatible uses.

NALF Goliad is proposed to be conveyed for intensive agricultural use such as a large-scale ostrich farm and processing facility requiring construction of ostrich pens (204 acres), administration facilities (10 acres), and a wastewater treatment facility (10 acres).

This action will not result in any unmitigatable significant environmental impacts. The correctional facility/community redevelopment uses at NAS Chase Field will positively benefit the City of Beeville and Bee County in terms of economic activity, employment, and income. The capacity of community infrastructure, including roads, potable water, and sanitary sewer service, is projected to continue to provide acceptable levels of service. Community services such as police, fire, and emergency medical will not be adversely impacted. School districts in Bee County have adequate capacity, based on existing capacity and programmed improvements, to accommodate the projected level of students.

Seven installation restoration sites at NALF Goliad and NAS Chase Field are either under investigation for remediation, or are being cleaned up. The Navy will complete its investigations and, if necessary, remediate the sites prior to their conveyance.

The development of intensive agricultural use at NALF Golaid will also provide long-term benefits to the region in terms of economic activity, employment, and income. Expansion and/or improvements to existing water and wastewater systems will require compliance with state and local laws and regulations.

The Navy has made an "adverse effect" determination concerning the proposed action and its impact upon historic resources eligible for listing on the National Register of Historic Places, under the criteria established by the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR part 800). A professional survey of NAS Chase Field and NALF Goliad finds that there are no archeological resources existing. A Memorandum of Agreement (MOA) has been developed which ensures appropriate management and protection of NAS Chase Field historic resources. The MOA has been signed by the Navy, the Texas State Historic Preservation Officer, and the Western Office of the Advisory Council on Historic Preservation, and is now effective. The MOA has also been concurred in by the TDCJ and the Beesville/Bee County Economic Development Corporation. Questions regarding this Record of Decision may be directed to Southern Division, Naval Facilities Engineering Command, 2155 Eagle Drive, P.O. Box 10068, Charleston, SC 29411 (Attn: Mr. Laurens Pitts), telephone (803) 743–0893.

Dated: June 23, 1993.

Elsie L. Munsell,

Deputy Assistant Secretary of the Navy (Environment and Safety).

Dated: June 25, 1993.

Michael P. Rummel,

LCDR, JAGC, USN, Federal Register Liaison Officer.

[FR Doc. 93–15422 Filed 6–29–93; 8:45 am]

BILLING CODE 3810–AE–M

DEPARTMENT OF EDUCATION

[CFDA No.: 84.133B]

Office of Special Education and Rehabilitative Services; National Institute on Disability and Rehabilitation Research; Inviting Applications for Certain New Awards Under the Rehabilitation Research and Training Centers (RRTC) for Fiscal Year (FY) 1994

PURPOSE: On December 4, 1992 at 57 FR 57617 and January 21, 1993 at 58 FR 5535, Consolidated Application Packages (CAPs) were published in the **Federal Register** inviting applications for new awards for two competitions for fiscal year 1993. The CAPs contained information, application forms, and instructions needed to apply for a grant under these competitions. Satisfactory applications were not received for the RRTCs in (1) Personal Assistance Services, (2) Rehabilitation Interventions in Traumatic Brain Injury, and (3) Community Integration for Individuals with Spinal Cord Injury, and there is a continuing need for research into these areas. The purpose of this notice is to reinvite applications for the RRTCs listed above for fiscal year 1994.

The Rehabilitation Act Amendments of 1992 requires that each applicant for a grant demonstrate how its proposed activities address the needs of individuals from minority backgrounds who have disabilities.

The estimated funding levels in this notice do not bind the Department of

Education to make awards in any of these categories, or to any specific number of awards or funding levels.

APPLICATIONS AVAILABLE: July 1, 1993.

APPLICABLE REGULATIONS: (a) The Education Department General Administrative Regulations (EDGAR), 34 CFR parts 74, 75, 77, 80, 81, 82, 85, 86; and (b) The regulations for this program in 34 CFR Parts 350 and 352.

PRIORITIES: The priorities published in the **Federal Register** on December 4, 1992 at 57 FR 57612 for Personal Assistance Services, and on January 21, 1993 at 58 FR 5524 for Rehabilitation Interventions in Traumatic Brain Injury, and Community Integration for Individuals with Spinal Cord Injury, apply to these competitions.

APPLICATION NOTICE FOR FISCAL YEAR 1994 REHABILITATION RESEARCH AND TRAINING CENTER CFDA NO. 84.133B

Funding priority	Deadline for transmittal of applications	Estimated number of awards	Estimated size of awards (per year)	Project period (months)
Personal assistance services	9/1/93	1	$500,000	36
Rehabilitation interventions in traumatic brain injury	9/1/93	1	650,000	60
Community integration for individuals with spinal cord injury	9/1/93	1	650,000	60

FOR FURTHER INFORMATION CONTACT: Dianne Villines, U.S. Department of Education, room 3417, Switzer Building, 400 Maryland Avenue, SW., Washington, DC 20202–2704. Telephone: (202) 205–5450. Individuals who use a telecommunications device for the deaf (TDD) may call the TDD number at (202) 205–8887.

PROGRAM AUTHORITY: 29 U.S.C. 760–762

Dated: June 25, 1993.

William L. Smith,

Acting Assistant Secretary, Office of Special Education, and Rehabilitative Services.

[FR Doc. 93–15387 Filed 6–29–93; 8:45 am]

BILLING CODE 4000–01–M

National Assessment Governing Board; Meeting

SUMMARY: This notice sets forth the schedule and proposed agenda of a forthcoming meeting of the Reporting and Dissemination Committee of the National Assessment Governing Board. This notice also describes the functions of the Board. Notice of this meeting is required under section 10 (a)(2) of the Federal Advisory Committee Act. This document is intended to notify the general public of their opportunity to attend.

DATE: July 19, 1993.

TIME: 10:15 a.m. to 11 a.m.

LOCATION: 800 North Capitol Street, NW., suite 825, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Mary Ann Wilmer, Operations Officer, National Assessment Governing Board, suite 825, 800 North Capitol Street, NW., Washington, DC, 20002–4233, Telephone: (202) 357–6938.

SUPPLEMENTARY INFORMATION: The National Assessment Governing Board is established under section 406(i) of the General Education Provisions Act (GEPA) as amended by section 3403 of the National Assessment of Educational Progress Improvement Act (NAEP Improvement Act), title III–C of the Augustus F. Hawkins—Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988 (Pub. L. 100–297), (20 U.S.C. 1221e–1).

The Board is established to formulate policy guidelines for the National Assessment of Educational Progress. The Board is responsible for selecting subject areas to be assessed, developing assessment objectives, identifying appropriate achievement goals for each grade and subject tested, and establishing standards and procedures for interstate and national comparisons.

The Reporting and Dissemination Committee of the National Assessment Governing Board will meet from 10:15 a.m. until 11 a.m. Because this is a teleconference meeting, facilities will be provided so the public will have access to the Committee's deliberations. The Committee will consider an NCES plan for release of two supplementary focussed reports on the 1992 mathematics assessment. These are to include presentations and discussions at seminars or conferences, to be held after the initial release press conferences. The reports will be on constructed response questions and effective mathematics instruction.

Records are kept of all Board proceedings and are available for public inspection at the U.S. Department of Education, National Assessment Governing Board, suite 825, 800 North Capitol Street, NW., Washington, DC, from 8:30 a.m. to 5 p.m.

Dated: June 25, 1993.

Roy Truby,

Executive Director, National Assessment Governing Board.

[FR Doc. 93–15454 Filed 6–29–93; 8:45 am]

BILLING CODE 4000–01–M

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket Nos. ER93–623–000 et al]

Montaup Electric Co., et al; Electric Rate, Small Power Production, and Interlocking Directorate Filings

June 24, 1993.

Take notice that the following filings have been made with the Commission:

1. Montaup Electric Co.

[Docket No. ER93–623–000]

Take notice that on June 16, 1993, Montaup Electric Company tendered for filing, in the above-referenced docket, an amendment to the Company's agreement with Altresco Pittsfield L.P. The amendment replaces the formula rate attached to the agreement with the formula rate contained in Montaup's transmission tariff. The change eliminates unnecessary differences in format and was made as the result of discussions with the Commission's Staff.

Comment date: July 9, 1993, in accordance with Standard Paragraph E at the end of this notice.

2. Idaho Power Co.

[Docket No. ER93–491–002

Take notice that on June 14, 1993, Idaho Power Company (Idaho) tendered for filing its refund report in the above-referenced docket.

Comment date: July 9, 1993, in accordance with Standard Paragraph E at the end of this notice.

3. Edison Sault Electric Co.

[Docket No. ER93–717–000]

Take notice that Edison Sault Electric Company on June 21, 1993, tendered for filing proposed changes in its Transmission Coordination Agreement between Cloverland Electric Cooperative, Inc., and Edison Sault Electric Company, FPC Rate Schedule 9. The proposed changes represented in Supplement Number Four are to implement the ability of either Party to this agreement to arrange third-party wheeling over the joint system, provided any incremental costs associated therewith are paid by the third-party and that the wheeling does not jeopardize the reliability of service to existing customers. The charge for wheeling would be equal to the Transmission Carrying Charges defined in the existing Agreement, plus up to 1 mill per kWh for unquantifiable costs when the contract period is one year of less.

The proposed Supplement Number Four to the agreement will permit either Party to readily deal with potential wheeling customers such as may appear, particularly Qualifying Facilities and Independent Power Producers.

Comment date: July 9, 1993, in accordance with Standard Paragraph E at the end of this notice.

4. Portland General Electric Co.

Docket No. ER93–462–000

Take notice that on June 18, 1993, Portland General Electric Company (PGE) tendered for filing an amendment to its original filing under Docket No. ER93–462–000. The nature of the amendment is a request for a thirty (30) day delay of Commission action.

PGE is amending the filing to complete an updated cost support analysis and to allow FERC staff time to review that analysis.

Copies of this filing have been served on the parties included in the distribution list contained in the filing letter.

Comment date: July 9, 1993, in accordance with Standard Paragraph E at the end of this notice.

5. PacifiCorp

[Docket No. ER93–677–000]

Take notice that on June 17, 1993, PacifiCorp withdrew its filing, in accordance with 18 CFR part 35 of the Commission's Rules and Regulations, of the POWER PURCHASE AGREEMENT plus amendments between Sunnyside Cogeneration Associates and PacifiCorp.

Copies of this filing have been supplied to Sunnyside Cogeneration Associates, the Public Utility Commission of Oregon and the Utah Public Service Commission.

Comment date: July 9, 1993, in accordance with Standard Paragraph E at the end of this notice.

6. Montaup Electric Co.

[Docket No. ER93–624–000]

Take notice that on June 16, 1993, Montaup Electric Company tendered for filing, in the above referenced docket, an amendment to the Company's agreement with MASSPOWER. The amendment replaces the formula rate attached to the agreement with the formula rate contained in Montaup's transmission tariff. The change eliminate unnecessary differences in format and was made as the result of discussions with the Commission's Staff.

Comment date: July 9, 1993, in accordance with Standard Paragraph E at the end of this notice.

7. Portland General Electric Co.

[Docket No. ER93–716–000]

Take notice that Portland General Electric Company (PGE), on June 17, 1993, tendered for filing its Average System Cost (ASC) as calculated by PGE and determined by the Bonneville Power Administration under the revised ASC Methodology which became effective on October 1, 1984. This filing includes PGE's revised appendix 1 of the Residential Purchase and Sale Agreement.

PGE states that the revised Appendix 1 shows the ASC to be 34.29 mills/kWh. The Bonneville Power Administration determined the ASC rate for PGE to be 34.29 mills/kWh.

Copies of the filing have been served on the persons named in the transmittal letter as included in the filing.

Comment date: July 9, 1993, in accordance with Standard Paragraph E at the end of this notice.

8. Central Maine Power Co.

[Docket No. ER93–704–000]

Take notice that on June 10, 1993, Central Maine Power Company (CMP) tendered for filing a Power Sales Tariff which provides for sales of system capacity and/or energy or unit capacity and/or energy. The proposed Tariff requires interested purchasers to enter into a service agreement with Centeral Maine Power Company before transactions may commence under the Tariff.

CMP requests that its Tariff be accepted for filing and allowed to become effective in accordance with its terms as specified. Information filed in support of the Tariff includes cost support for CMP's tariff ceiling rates, and pricing terms that allow for the capacity and energy changes to be pro-rated for the duration of each sale. A copy of this filing was served upon the Maine Public Utilities Commission.

Comment date: July 9, 1993, in accordance with Standard Paragraph E at the end of this notice.

Standard Paragraphs

E. Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 385.214). All such motions or protests should be filed on or before the comment date. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–15395 Filed 6–29–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket Nos. TQ93–8–63–002 and TM93–8–63–002]

Carnegie Natural Gas Co.; Compliance Filing

June 24, 1993.

Take notice that on June 17, 1993, Carnegie Natural Gas Company (Carnegie) tendered for filing the following substitute tariff sheet to Carnegie's FERC Gas Tariff, Second Revised Volume No. 1, to supplement and correct a tariff sheet submitted by Carnegie on June 11, 1993:

2nd Sub Forty-Fourth Revised Sheet No. 9

Carnegie states that it is submitting this second substitute tariff sheet to correct a typographical error contained on Substitute Forty-Fourth Revised Sheet No. 9 tendered in its June 11 compliance filing. Carnegie states that on that tariff sheet, the cumulative adjustment amount reflected for the minimum commodity rate under Carnegie's Rate Schedule SEGSS was

erroneously stated with brackets, indicating that it was a negative, or credit, amount. Carnegie further states that the second substitute tariff sheet filed on June 17, 1993, correctly reflects this amount without brackets, indicating that it is a positive amount.

Carnegie states that the correction affects only the cumulative adjustment amount for the SEGSS minimum commodity rate and does not result in any change to the adjusted sales rates in effect under any of Carnegie's rate schedules.

Carnegie states that copies of the supplemental filing have been mailed to all affected customers and interested state commissions.

Any person desiring to protest said filing should file a protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rule 211 of the Commission's Rules of Practice and Procedure 18 CFR 385.211. All such protests should be filed on or before July 1, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–15338 Filed 6–29–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. CP93–503–000]

East Tennessee Natural Gas Co.; Application

June 24, 1993.

Take notice that on June 21, 1993, East Tennessee Natural Gas Company (East Tennessee), Post Office Box 2511, Houston, Texas 77252, filed in Docket No. CP93–503–000 an application pursuant to section 7(c) of the Natural Gas Act for authorization to construct and operate approximately 2000 feet of 8-inch loop line in Roanoke County, Virginia, all as more fully set forth in the application on file with the Commission and open to public inspection.

East Tennessee proposes to install the loopline around East Tennessee's existing 8-inch Line 3300 in Roanoke County. It is stated that the existing line may be jeopardized by the erection of a dam over the line and that the loop line is required to protect service through the existing line. It is explained that the county is developing a water impoundment reservoir over the existing line, which will be covered by water to a depth of 130 feet. It is further explained that the loop is needed in the event that the water might cause a rupture on the existing line. It is estimated that the construction cost will be $486,000.

Any person desiring to be heard or to make any protest with reference to said application should on or before July 15,1 993, file with the Federal Energy Regulatory Commission, Washington, DC 20426, a motion to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.214 or 385.211) and the Regulations under the Natural Gas Act (18 CFR 157.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a motion to intervene in accordance with the Commission's Rules.

Take further notice that, pursuant to the authority contained in and subject to the jurisdiction conferred upon the Federal Energy Regulatory Commission by sections 7 and 15 of the Natural Gas Act and the Commission's Rules of Practice and Procedure, a hearing will be held without further notice before the Commission or its designee on this application if no motion to intervene is filed within the time required herein, if the Commission on its own review of the matter finds that a grant of the certificate is required by the public convenience and necessity. If a motion for leave to intervene is timely filed, or if the Commission on its own motion believes that a formal hearing is required, further notice of such hearing will be duly given.

Under the procedure herein provided for, unless otherwise advised, it will be unnecessary for East Tennessee to appear or be represented at the hearing.

Lois D. Cashell,

Secretary.

[FR Doc. 93–15329 Filed 6–29–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. TQ93–8–4–000]

Granite State Gas Transmission, Inc.; Proposed Changes in Rates

June 24, 1993.

Take notice that on June 11, 1993, Granite State Gas Transmission, Inc. (Granite State) 300 Friberg Parkway, Westborough, Massachusetts 01581, filed Revised Twenty-Sixth Revised Sheet No. 21 in its FERC Gas Tariff, Second Revised Volume No. 1, containing changes in rates for effectiveness on June 12, 1993.

According to Granite State, its filing is an out-of-cycle purchased gas cost adjustment based on projected gas costs and sales for the balance of the second quarter of 1993. Granite State further states that its current rates are those made effective in Docket No. TF93–3–4–000 on May 1, 1993 and its actual gas costs have increased rapidly since that filing. It is further stated that the instant filing is made to correct its gas costs because of its potential exposure under Section 154.306 (Assessment of Past Performance) of the Regulations to disallowed costs.

Granite State indicates that the revised sales rates on Revised Twenty-Sixth Revised Sheet No. 21 are applicable to Granite State's wholesale sales to its two affiliated distribution company customers: Bay State Gas Company (Bay State) and Northern Utilities, Inc. (Northern Utilities).

Granite State states that copies of its filing were served upon its customers Bay State Gas Company and Northern Utilities, Inc. and the regulatory commissions of the states of Maine, New Hampshire and Massachusetts.

Any person desiring to be heard or to make protest with reference to said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedures (18 CFR 385.211 and 385.214). All such motions or protests should be filed on or before July 1, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party to the proceeding or to participate as a party in any hearing therein must file a motion to intervene in accordance with the Commission's Rules. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–15339 Filed 6–29–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. EG93–54–000]

Great Bay Power Corporation; Application for Commission Determination of Exempt Wholesale Generator Status

June 24, 1993.

On June 11, 1993, Great Bay Power Corporation, a corporation organized under the laws of New Hampshire (the "Applicant") whose address is Forty Stark Street, P.O. Box 326, Manchester, NH 03101, filed with the Federal Energy Regulatory Commission an application for determination of exempt wholesale generator status pursuant to part 365 of the Commission's regulations.

The Applicant states that it is engaged directly and exclusively in the business of owning a 12.1324 percent undivided interest (the "Seabrook Interest") in the Seabrook Nuclear Power Plant (the "Seabrook Plant") and selling at wholesale its entitlement to a pro rata share of the capacity and energy from the Seabrook Plant. The Seabrook Plant is a nuclear-fueled electricity generating plant located in Seabrook, New Hampshire, consisting of a pressurized water reactor with a rated capacity of 1,150 megawatts. The Seabrook Plant includes interconnecting transmission facilities that interconnect the Seabrook Plant with the transmission facilities of Public Service Company of New Hampshire. The Applicant requests a determination that upon the effective date of a plan of reorganization of the Applicant, the Applicant will be an exempt wholesale generator under section 32(a)(1) of the Public Utility Holding Company Act of 1935.

Any person desiring to be heard concerning the application for exempt wholesale generator status should file a motion to intervene or comments with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure. The Commission will limit its consideration of comments to those that concern the adequacy or accuracy of the application. All such motions and comments should be filed on or before July 9, 1993 and must be served on the applicant. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–15331 Filed 6–29–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. ID–2423–001]

William T. McCormick, Jr., Notice of Filing

June 24, 1993.

Take notice that on June 14, 1993, William T. McCormick, Jr. (Applicant) tendered for filing an application under section 305(b) of the Federal Power Act to hold the following positions:

Director—Schlumberger Limited.

Chairman of the Board and Consumers Power Company.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 18 CFR 385.214). All such motions or protests should be filed on or before July 9, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–15336 Filed 6–29–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket Nos. TQ93–4–86–000 and TA93–1–86–001]

Pacific Gas Transmission Co.; Change in Rates

June 24, 1993.

Take notice that on June 18, 1993, Pacific Gas Transmission Company (PGT), tendered for filing as part of its FERC Gas Tariff, Second Revised Volume No. 1, First Revised Twentieth Revised Sheet No. 4, with proposed effective date of June 19, 1993.

PGT also tendered for filing Substitute Twenty-First Revised Sheet No. 4, with proposed effective date of August 1, 1993. PGT states that the tariff sheet updates PGT's annual PGA filing at Docket No. TA93–1–86–000, filed on May 28, 1993.

PGT states that the rates set forth in the First Revised Twentieth Revised Tariff Sheet No. 4 reflect an increase of $0.106539 per MMBtu (commodity) from those rates filed in PGT's previously quarterly PGA filing at Docket No. TQ93–3–86–000, which were effective May 1, 1993. PGT states that this increase in commodity cost reflects an increase in projected prices.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with 18 CFR 385.214 and 385.211 of the Commission's Rules and Regulations. All such motions or protests should be filed on or before July 1, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection in the public reference room.

Lois D. Cashell,

Secretary.

[FR Doc. 93–15330 Filed 6–29–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. RP93–144–000]

Southern Natural Gas Co.; Petition for Limited Waiver of Tariff Provisions

June 24, 1993.

Take notice that on June 17, 1993, Southern Natural Gas Company (Southern), tendered for filing a petition for a limited waiver of its FERC Gas Tariff, Sixth Revised Volume No. 1, in accordance with § 161.3(b) of the Commission's Regulations 18 CFR 163.3(b).

Southern respectfully requests a limited waiver of Southern's FERC Gas Tariff, Sixth Revised Volume No. 1, to the extent necessary to allow Southern to make an adjustment to Mullite Company of America's (Mullite) transportation account.

In January 1993, Mullite attempted to rectify a positive imbalance with Southern from December 1992 by nominating less transportation gas then it planned to withdraw, which Southern's tariff does not permit. The excess gas withdrawn by Mullite was treated as sales by Southern to Andersonville and sales by Andersonville to Mullite, resulting in substantially higher charges to Mullite. Southern requests authority to waive its tariff provision to adjust Mullite's transportation account so the excess gas withdrawn in January can be billed as gas purchased by Mullite in the spot market and transported by Southern.

Southern states that copies of the filing were served on all of Southern's shippers.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal

Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with 18 CFR 385.214 and 385.211 of the Commission's Rules and Regulations. All such motions or protests should be filed on or before July 1, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and are available for public inspection in the public reference room.

Lois D. Cashell,

Secretary.

[FR Doc. 93–15333 Filed 6–29–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. CP90–687–009]

Transcontinental Gas Pipe Line Corp.; Petition to Amend

June 24, 1993.

Take notice that on June 14, 1993, Transcontinental Gas Pipe Line Corporation (Transco), Post Office Box 1396, Houston, Texas 77251, filed pursuant to sections 7(b) and 7(c) of the Natural Gas Act to further amend the certificate of public convenience and necessity granted by the Commission by orders issued January 17, 1991 and June 11, 1991, and amended by order issued November 30, 1992 in Docket Nos. CP90–687–000, *et al.*,[1] to permit the assignment of South Jersey Energy Company's (South Jersey Energy) firm transportation capacity entitlement under Transco's Rate Schedule FT–NT to South Jersey Gas Company (South Jersey Gas), all as more fully set forth in the application which is on file with the Commission and open to pubic inspection.

Transco states that South Jersey Energy and South Jersey Gas are shippers under Transco's Rate Schedule FT–NT and are also corporate affiliates of each other. South Jersey Energy and South Jersey Gas have notified Transco that South Jersey Energy desires to assign its Service Agreement under Rate Schedule FT–NT to South Jersey Gas. Transco further states that South Jersey Energy has explained to Transco that it no longer requires firm transportation capacity under Rate Schedule FT–NT, and, as part of South Jersey Energy's and South Jersey Gas' overall strategy, they desire South Jersey Gas to be the only corporate affiliate holding firm transportation capacity entitlements on Transco's system under Rate Schedule FT–NT.

Transco requests authorization to permit South Jersey Energy to assign its Rate Schedule FT–NT firm transportation capacity entitlement of 7,000 McF/d to South Jersey Gas. Transco states that in order to accomplish this assignment, Transco requests that: (1) Transco's certificate granted in this proceeding be amended to increase South Jersey Gas' firm transportation service under Rate Schedule FT–NT from 17,700 Mcf/d to 24,700 Mcf/d, and (2) South Jersey Energy's 7,000 Mcf/d of firm transportation service under Rate Schedule FT–NT be abandoned. Transco requests that this amendment and abandonment approval be effective on the first day of the month immediately following receipt and acceptance by Transco of the authorizations requested.

Transco states that since South Jersey Energy's and South Jersey Gas' Service Agreements under Rate Schedule FT–NT have the same receipt and delivery points, no changes to such agreements are required for this assignment. Also, no abandonment of or modifications to any facilities are required.

Any person desiring to be heard or to make any protest with reference to said petition to amend should on or before July 15, 1993, file with the Federal Energy Regulatory Commission, Washington, DC 20426, a motion to intervene or a protest in accordance with the requirements of the Commission's Rules of Practice and Procedure (18 CFR 385.214 or 385.211) and the Regulations under the Natural Gas Act (18 CFR 157.10). All protests filed with the Commission will be considered by it in determining the appropriate action to be taken but will not serve to make the protestants parties to the proceeding. Any person wishing to become a party to a proceeding or to participate as a party in any hearing therein must file a motion to intervene in accordance with the Commission's Rules.

Lois D. Cashell,

Secretary.

[FR Doc. 93–15334 Filed 6–29–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. EF93–5101–000]

Western Area Power Administration; Notice of Filing

June 24, 1993.

Take notice that on June 10, 1993, the Assistant Secretary for Energy Efficiency and Renewable Energy of the Department of Energy, by Rate Order No. WAPA–62, did confirm and approve on an interim basis, to be effective beginning on June 8, 1993, an extension of the rate contained in contract No. 7–07–50–P0890 for Amistad and Falcon Projects' power marketed by Western Area Power Administration (Western).

The rate extension will be in effect on an interim basis pending the Federal Energy Regulatory Commission's (Commission) approval of it or a substitute rate on a final basis ending June 7, 1998.

Article 9(e) of the contract No. 7–07–50–P0890 requires Western to calculate the annual installment to be paid by the South Texas Electric Cooperative, Inc., and the Medina Electric Cooperative, Inc. (STEC/MEC), for the power generated at the Amistad and Falcon Powerplants, by consultation with the U.S.Section of the International Boundary and Water Commission (U.S. Section), and to submit it to STEC/MEC in the form of a contract exhibit on or before August 31, of the year preceding the fiscal year to which it pertains.

The amount of each annual installment shall be the sum of

(1) An annual installment including interest, to amortize within the remaining period, the unpaid United States investment in the Falcon hydroelectric facilities and in the penstocks at Amistad Dam; plus

(2) An annual installment to amortize over a 50-year period, the United States actual total investment costs with interest, for hydroelectric power facilities, not including penstocks, at Amistad Dam to be under the jurisdiction of the U.S. Section, including the costs of engineering plans, supervision, administration of construction, and interest during construction * * *, and

(3) The annual operation, maintenance, replacement, and administration costs of the U.S. Section and the administration costs of the U.S. Section and the administration costs of Western related directly or indirectly to the United States power facilities at Amistad Dam and at Falcon Dam, provided that such costs shall be based on prudent and businesslike management practices and in accordance with established electric industry operation and maintenance practices * * *.

This repayment schedule is not dependent upon the power and energy made available for sale of the rate of generation each year.

Western will continue to provide STEC/MEC with a revised exhibit A by

[1] See 54 FERC 61,032; 55 FERC 61,415; and 61 FERC 62,164.

August 31 of each year using the same methodology.

The Assistant Secretary states that the rate extension is submitted for confirmation and approval on a final basis for a 5-year period beginning June 8, 1993, and ending June 7, 1998, pursuant to the authority vested in the Commission by Delegation Order No. 0204–108.

Any person desiring to be heard or to protest said filing should file a motion to intervene or protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211 and 18 CFR 385.214). All such motions or protests should be filed on or before July 9, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a motion to intervene. Copies of this filing are on file with the Commission and available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–1535 Filed 6–29–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket No. TA93–1–43–002]

Williams Natural Gas Co.; Compliance Filing

June 24, 1993.

Take notice that on June 1, 1993, Williams Natural Gas Company (WNG) tendered for filing with the Commission additional information in compliance with Commission April 30, 1993 order. WNG states that by Commission order dated April 30, 1993 the Commission direct WNG to (1) file a statement in support of its storage gas projections, or make the appropriate adjustments, as necessary, to comply with the March 17, 1993 Commission order in Docket No. RS92–12, and (2) file a revised surcharge to be effective May 1, 1993, based on 12 months of estimated sales.

WNG states that Attachment A to the filing describes the basis for WNG's storage gas projections utilized in the annual PGA filing and the changes which have been made as a result of the March 17, 1993 order. Attachment B to the filing represents WNG's best estimate of sales for the six month period ending November 1, 1993. Such estimate sales level, also represents WNG's best estimate of sales for the twelve month period May 1993 through April 1994.

Any person desiring to protest said filing should file a protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rule 211 of the Commission's Rules of Practice and Procedure 18 CFR 385.211. All such protests should be filed on or before July 1, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–15337 Filed 6–29–93; 8:45 am]

BILLING CODE 6717–01–M

[Docket Nos. TM93–6–49–001 and TA93–1–49–002]

Williston Basin Interstate Pipeline Co.; Revised Tariff Filing

June 24, 1993.

Take notice that on June 17, 1993, Williston Basin Interstate Pipeline Company (Williston Basin), tendered for filing a revision to its Annual Take-or-Pay Reconciliation Filing, which was filed May 28, 1993, and to its Annual Purchased Gas Adjustment Filing, which was filed June 1, 1993, pursuant to the General Terms and Conditions of its FERC GAS Tariff.

Williston Basin has requested that the Commission accept the tariff sheets contained in appendix A to the filing to become effective July 1, 1993 and the tariff sheets contained in appendix B to the filing to become effective August 1, 1993.

Williston Basin states that the substitute tariff sheets are being filed to reflect a correction to the total throughput underlying the revised throughput surcharge to be effective during the period July 1, 1993 through June 30, 1994 pursuant to the procedures contained in Section 32 and 33 of the General Terms and Conditions of Williston Basin's Ferc Gas Tariff, First Revised Volume No. 1 and in accordance with a filing submitted concurrently in compliance with the Commission's May 6, 1993 Order in Docket Nos. RP90–137–000, *et al.* This filing reflects a revised total throughput surcharge of 12.603 cents per dkt on all applicable sales and transportation volumes.

Any person desiring to protest said filing should file a protest with the Federal Energy Regulatory Commission, 825 North Capitol Street, NE., Washington, DC 20426, in accordance with Rule 211 of the Commission's Rules of Practice and Procedure 18 CFR 384.211. All such protests should be filed on or before July 1, 1993. Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Copies of this filing are on file with the Commission and are available for public inspection.

Lois D. Cashell,

Secretary.

[FR Doc. 93–15332 Filed 6–29–93; 8:45 am]

BILLING CODE 6717–01–M

ENVIRONMENTAL PROTECTION AGENCY

[FRL–4672–5]

Agency Information Collection Activities Under OMB Review

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: In compliance with the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*), this notice announces that the Information Collection Requests (ICRs) abstracted below have been forwarded to the Office of Management and Budget (OMB) for review and comment. The ICRs describe the nature of the information collection and their expected cost and burden; where appropriate, they include the actual data collection instruments.

DATES: Comments must be submitted on or before July 30, 1993.

FOR FURTHER INFORMATION, OR TO OBTAIN A COPY OF THESE ICRS, CONTACT: Ms. Sandy Farmer at EPA, (202) 260–2740.

SUPPLEMENTARY INFORMATION:

Office of Air and Radiation

Title: Annual Updates of Emission Data to the Aerometric Information Retrieval System (AIRS) (EPA ICR No. 0916.06; OMB No. 2060–0088). This is a request for renewal of a currently approved information collection.

Abstract: State air pollution control agencies are required to update annually information on stationary sources emitting at least prescribed amounts of pollutants regulated by the National Ambient Air Quality Standards (NAAQS). EPA's Office of Air Quality Planning and Standards (OAQPS) uses the annual emission reports to update the National data base on emissions of stationary sources. The data is used in developing emission standards, applying dispersion models, and in

preparing national trend assessments and other special analyses and reports.

Burden Statement: The public reporting burden for this collection of information is estimated to average 125 hours per response. This estimate includes the time needed to review instructions, search existing data sources, gather and maintain the data needed, and complete and review the collection of information.

Respondents: State air pollution control agencies.

Estimated No. of Respondents: 54.

Estimated No. of Responses Per Respondent: 1.

Estimated Total Annual Burden on Respondents: 6,759 hours.

Frequency of Collection: Annual.

Title: Source Compliance and State Action Reporting (EPA ICR No. 0107.04; OMB No. 2060–0096). This is a request for renewal of a currently approved information collection.

Abstract: State, District, Commonwealth, and territorial governments make air compliance information available to EPA on a quarterly basis via input to the Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS). The information provided to EPA includes compliance determinations and compliance activities. EPA uses this information to assess progress toward meeting emission requirements developed under the authority of the Clean Air Act to protect and maintain the atmospheric environment and the public health. The compliance information in AFS is used by all ten EPA Regional Offices and by most of the 55 State, District, Commonwealth, and territorial governments on a daily basis for managing activities of their air pollution control programs.

Burden Statement: The public reporting burden for this collection of information is estimated to average 334 hours per response for reporting, and to require 1,310 hours per recordkeeper annually. This estimate includes the time needed to review instructions, search existing data sources, gather and maintain the data needed, and complete and review the collection of information.

Respondents: State, District, Commonwealth, and Territorial air pollution control agencies.

Estimated No. of Respondents: 55.

Estimated No. of Responses Per Respondent: 4.

Estimated Total Annual Burden on Respondents: 145,633 hours.

Frequency of Collection: Quarterly.

Send comments regarding the burden estimates, or any other aspect of the information collections, including suggestions for reducing the burdens, to:

Ms. Sandy Farmer, U.S. Environmental Protection Agency, Information Policy Branch (PM–223Y), 401 M Street, SW., Washington, DC 20460.

and

Mr. Chris Wolz, Office of Management and Budget, Office of Information and Regulatory Affairs, 725 17th Street, NW., Washington, DC 20503.

Dated: June 24, 1993.

Paul Lapsley,

Director, Regulatory Management Division.

[FR Doc. 93–15444 Filed 6–29–93; 8:45 am]

BILLING CODE 6560–50–F

[OPP–30320B; FRL–4627–8]

Kemira Biotech.; Approval of Pesticide Product Registrations

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: This notice announces Agency approval of applications submitted by Kemira Biotech., to conditionally register four Mycostop Biofungicide products containing a new active ingredient not included in any previously registered products pursuant to the provisions of section 3(c)(7)(C) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended.

FOR FURTHER INFORMATION CONTACT: By mail: Susan Lewis, Product Manager (PM) 21, Registration Division (H7505C), Office of Pesticide Programs, 401 M St., SW., Washington, DC 20460. Office location and telephone number: Rm. 227, CM #2, Environmental Protection Agency, 1921 Jefferson Davis Hwy, Arlington, VA 22202, (703–305–6900).

SUPPLEMENTARY INFORMATION: EPA issued a notice, published in the **Federal Register** of July 2, 1991 (56 FR 30392), which announced that Kemira Oy, Porkkalankatu 3, PO Box 330, 00101 Helsinki, Finland, had submitted applications to conditionally register four Mycostop Biofungicide products (File Symbols 64137–R, 64137–E, 64137–G, and 64137–U), containing the active ingredient dried spores and mycelium of ray fungus (*Streptomyces griseoviridis*) at 30 percent, an active ingredient not included in any previously registered products.

The following applications were approved on April 13, 1993, for seed treatment, soil treatment, and foliar spray, and contains the active ingredient dried spores and mycelium of ray fungus (*Streptomyces spp. Strain K61*) at 30 percent.

1. Product name: Mycostop Biofungicide for Agronomic Crops. (EPA Reg. No. 64137–1).

2. Product name: Mycostop Biofungicide for Vegetable Crops. (EPA Reg. No. 64137–2).

3. Product name: Mycostop Biofungicide for Repackaging Only. (EPA Reg. No. 64137–3).

4. Product name: Mycostop Biofungicide for Ornamental Crops. (EPA Reg. No. 64137–4).

A conditional registration may be granted under section 3(c)(7)(C) of FIFRA for a new active ingredient where certain data are lacking, on condition that such data are received by the end of the conditional registration period and do not meet or exceed the risk criteria set forth in 40 CFR 154.7; that use of the pesticide during the conditional registration period will not cause unreasonable adverse effects; and that use of the pesticide is in the public interest.

The Agency has considered the available data on the risks associated with the proposed use of dried spores and mycelium of ray fungus (*Streptomyces spp. Strain K61*), and information on social, economic, and environmental benefits to be derived from such use. Specifically, the Agency has considered the nature of its pattern of use, application methods and rates, and level and extent of potential exposure. Based on these reviews, the Agency was able to make basic health and safety determinations which show that use of dried spores and mycelium of ray fungus (*Streptomyces spp. Strain K61*) during the period of conditional registration will not cause any unreasonable adverse effect on the environment, and that use of the pesticide is, in the public interest.

Consistent with section 3(c)(7)(C), the Agency has determined that these conditional registrations are in the public interest. Use of the pesticides are of significance to the user community, and appropriate labeling, use directions, and other measures have been taken to ensure that use of the pesticides will not result in unreasonable adverse effects to man and the environment.

More detailed information on these conditional registrations is contained in a Chemical Fact Sheet on dried spores and mycelium of ray fungus (*Streptomyces spp. Strain K61*).

A copy of the fact sheets, which provides a summary description of the chemical, use patterns and formulations, science findings, and the Agency's regulatory position and rationale, may be obtained from the National Technical Information Service

(NTIS), 5285 Port Royal Road, Springfield, VA 22161.

In accordance with section 3(c)(2) of FIFRA, a copy of the approved label and the list of data references used to support registration are available for public inspection in the office of the Product Manager. The data and other scientific information used to support registration, except for material specifically protected by section 10 of FIFRA, are available for public inspection in the Public Response and Program Resources Branch, Field Operations Division (H7506C), Office of Pesticide Programs, Environmental Protection Agency, Rm. 1128, CM–2, Arlington, VA 22202 (703–305–5805). Requests for data must be made in accordance with the provisions of the Freedom of Information Act and must be addressed to the Freedom of Information Office (A–101), 401 M St., SW., Washington, DC 20460. Such requests should: (1) Identify the product name and registration number and (2) specify the data or information desired.

Authority: 7 U.S.C. 136.

Dated: June 18, 1993.

Douglas D. Campt,

Director, Office of Pesticide Programs.

[FR Doc. 93–15265 Filed 6–29–93; 8:45 am]

BILLING CODE 6560–50–F

[OPP–180895; FRL–4589–7]

Emergency Exemptions

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: EPA has granted specific exemptions for the control of various pests to the 12 States as listed below, and one was granted to the United States Department of Agriculture. These exemptions, issued during the month of March 1993, are subject to application and timing restrictions and reporting requirements designed to protect the environment to the maximum extent possible. EPA has denied a specific exemption request from the Florida Department of Agriculture. Information on these restrictions is available from the contact persons in EPA listed below.

DATES: See each specific exemption for its effective date.

FOR FURTHER INFORMATION CONTACT: See each emergency exemption for the name of the contact person. The following information applies to all contact persons: By mail: Registration Division (H7505W), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: 6th Floor, CS #1, 2800 Jefferson Davis Highway, Arlington, VA, (703–308–8417).

SUPPLEMENTARY INFORMATION: EPA has granted specific exemptions to the:

1. Arkansas State Plant Board for the use of triclopyr on rice to control broadleaf weeds; March 15, 1993, to September 1, 1993. (Susan Stanton)

2. California Environmental Protection Agency, Department of Pesticide Regulation, for the use of methyl bromide on sweet potatoes to control root-knot nematodes; March 3, 1993, to March 2, 1994. (Libby Pemberton)

3. Florida Department of Agriculture and Consumer Services for the use of malathion on atemoya and sugar apple to control annona seed borers; March 11, 1993, to December 31, 1993. (Susan Stanton)

4. Idaho Department of Agriculture for the use of sethoxydim on mint to control green foxtail and quackgrass; March 15, 1993, to September 1, 1993. (Susan Stanton)

5. Louisiana Department of Agriculture and Forestry for the use of triclopyr on rice to control broadleaf weeds; March 15, 1993, to August 30, 1993. (Susan Stanton)

6. Minnesota Department of Agriculture for the use of sethoxydim on canola to control volunteer grains and grasses; March 3, 1993, to June 30, 1993. (Susan Stanton)

7. Montana Department of Agriculture for the use of sethoxydim on canola to control volunteer grains and grasses; March 3, 1993, to July 15, 1993. (Susan Stanton)

8. Montana Department of Agriculture for the use of quizalofop-p-ethyl on mint to control volunteer grains and grasses; March 19, 1993, to November 30, 1993. (Susan Stanton)

9. North Carolina Department of Agriculture for the use of iprodione on tobacco transplants to control target spot, stem rot, and collar rot; March 5, 1993, to June 1, 1993. (Susan Stanton)

10. Oregon Department of Agriculture for the use of chlorothalonil on filberts (hazelnuts) to control eastern filbert blight; March 9, 1993, to May 30, 1993. (Susan Stanton)

11. Texas Department of Agriculture for the use of cypermethrin on dry bulb onions to control thrips; March 19, 1993, to March 19, 1994. (Andrea Beard)

12. Utah Department of Agriculture for the use of sethoxydim on canola to control volunteer grains and grasses; March 3, 1993, to November 15, 1993. (Susan Stanton)

13. Utah Department of Agriculture for the use of cypermethrin on dry bulb onions to control thrips; March 19, 1993, to September 30, 1993. (Andrea Beard)

14. Washington Department of Agriculture for the use of quizalofop-p-ethyl on mint to control grassy weeds; March 19, 1993, to July 15, 1993. (Susan Stanton)

15. Washington Department of Agriculture for the use of sethoxydim on canola to control volunteer grains and grasses; March 3, 1993, to November 30, 1993. (Susan Stanton)

16. United States Department of Agriculture for the use of methyl bromide on cucumbers to control any pest new to, or not heretofore prevalent, in the United States at ports of entry; March 11, 1993, to March 10, 1996. (Libby Pemberton)

EPA has denied a specific exemption from the Florida Department of Agriculture and Consumer Services for the use of iprodione on tangerines and tangelos to control alternaria brown spot. (Susan Stanton)

Authority: 7 U.S.C. 136.

Dated: June 15, 1993.

Douglas D. Campt,

Director, Office of Pesticide Programs.

[FR Doc. 93–15266 File 6–29–93; 8:45 am]

BILLING CODE 6560–50–F

FEDERAL COMMUNICATIONS COMMISSION

[PR Docket No. 93–105; DA 93–708]

Private Land Mobile Radio Services; Virgin Islands Public Safety Plan

AGENCY: Federal Communications Commission.

ACTION: Notice.

SUMMARY: The Chief, Private Radio Bureau and the Chief Engineer released this Order accepting the Public Safety Radio Plan for the Virgin Islands (Region 48). As a result of accepting the Plan for Region 48, licensing of the 821–824/866–869 MHz band in that region may begin immediately.

EFFECTIVE DATE: June 23, 1993.

FOR FURTHER INFORMATION CONTACT: Betty Woolford, Private Radio Bureau, Policy and Planning Branch, (202) 632–6497.

SUPPLEMENTARY INFORMATION:

Order

Adopted: June 15, 1993.

Released: June 23, 1993.

By the Chief, Private Radio Bureau and the Chief Engineer:

1. On January 28, 1993, Region 48 (Virgin Islands) submitted its Public

Safety Plan to the Commission for review. The Plan sets forth the guidelines to be followed in allotting spectrum to meet current and future mobile communications requirements of the public safety and special emergency entities operating in the Virgin Islands.

2. The Virgin Islands Plan was placed on Public Notice for comments due on May 17, 1993, 58 FR 19669 (April 15, 1993). The Commission received no comments in this proceeding.

3. We have reviewed the Plan submitted for the Virgin Islands and find that it conforms with the National Public Safety Plan. The plan includes all the necessary elements specified in the *Report and Order* in Gen. Docket No. 87–112, 3 FCC Rcd 905 (1987), and satisfactorily provides for the current and projected mobile communications requirements of the public safety and special emergency entities in the Virgin Islands.

4. Therefore, we accept the Virgin Islands Public Safety Radio Plan. Furthermore, licensing of the 821–824/866–869 MHz band in the Virgin Islands may commence immediately.

Federal Communications Commission.

Ralph A. Haller,

Chief, Private Radio Bureau.

[FR Doc. 93–15376 Filed 6–29–93; 8:45 am]

BILLING CODE 6712–01–M

DEPARTMENT OF ENERGY

Federal Emergency Management Agency

[FEMA–991–DR]

Oklahoma; Amendment to Notice of a Major Disaster Declaration

AGENCY: Federal Emergency Management Agency (FEMA).

ACTION: Notice.

SUMMARY: This notice amends the notice of a major disaster for the State of Oklahoma, (FEMA–991–DR), dated May 12, 1993, and related determinations.

EFFECTIVE DATE: June 23, 1993.

FOR FURTHER INFORMATION CONTACT: Pauline C. Campbell, Disaster Assistance Programs, Federal Emergency Management Agency, Washington, DC 20472, (202) 646–3606.

SUPPLEMENTARY INFORMATION: The notice of a major disaster for the State of Oklahoma dated May 12, 1993, is hereby amended to include the following area among those areas determined to have been adversely affected by the catastrophe declared a major disaster by the President in his declaration of May 12, 1993:

Osage County for Individual Assistance and Public Assistance.

(Catalog of Federal Domestic Assistance No. 83.516, Disaster Assistance)

Richard W. Krimm,

Deputy Associate Director, State and Local Programs and Support.

[FR Doc. 93–15399 Filed 6–29–93; 8:45 am]

BILLING CODE 6718–02–M

FEDERAL MARITIME COMMISSION

[Docket No. 93–13]

Worldlink Logistics, Inc. v. Hyundai Merchant Marine Co., Ltd.; Filing of Complaint and Assignment

Notice is given that a complaint filed by Worldlink Logistics, Inc. ("Complainant") against Hyundai Merchant Marine Co. Ltd. ("Respondent") was served June 24, 1993. Complainant alleges that Respondent engaged in violations of section 8(c) of the Shipping Act of 1984, 46 U.S.C. app. 1707(c), by failing and refusing to make available the essential terms of a service contract to a similarly situated shipper, and failing to respond to Complainant's "me-too" request within fourteen days with either a contract offer or a written explanation as to why Complainant is not entitled to the contract.

This proceeding has been assigned to the office of Administrative Law Judges. Hearing in this matter, if any is held, shall commence within the time limitation prescribed in 46 CFR 502.61. The hearing shall include oral testimony and cross-examination in the discretion of the presiding officer only upon proper showing that there are genuine issues of material fact that cannot be resolved on the basis of sworn statements, affidavits, depositions, or other documents or that the nature of the material in issue is such that an oral hearing and cross-examination are necessary for the development of an adequate record. Pursuant to the further terms of 46 CFR 502.61, the initial decision of the presiding officer in this proceeding shall be issued by June 24, 1994, and the final decision of the Commission shall be issued by October 24, 1994.

Joseph C. Polking,

Secretary.

[FR Doc. 93–15319 Filed 6–29–93; 8:45 am]

BILLING CODE 6730–01–M

Petitions for Temporary Exemption From Electronic Tariff Filing Requirements; Filing of Petitions

In the matter of Petition No. P30–93; Petition of World Tariff Services, Inc. on behalf of additional common carriers; Petition No. P31–93; Petition of NX Corp. D/B/A/ Logistec on behalf of various carriers; Petition No. P32–93, Petition of D.X.I. Incorporated on behalf of various carriers.

Notice is hereby given of the filing of petitions by the above named petitioners, pursuant to 46 CFR 514.8(a), for temporary exemption from the electronic tariff filing requirements of the Commission's ATFI System. Petitioners request exemption from the June 4, 1993, electronic filing deadline, on behalf of a number of carrier customers, stating they are unable to comply with the June 4, 1993 deadline for filing of World Wide/Asian and South Pacific tariffs.

To facilitate thorough consideration of the petitions, interested persons are requested to reply to the petitions no later than June 26, 1993. Replies shall be directed to the Secretary, Federal Maritime Commission, Washington, DC 20573–0001, shall consist of an original and 15 copies, and shall be served on petitioners as follows:

P30–93—Paul D. Coleman, Esq., Hoppel, Mayer & Coleman, 1000 Connecticut Avenue, NW., Washington, DC 20036

P31–93—Normal M. Nagel, Jr. NX Corp. d.b.a. Logistec, 8950 Route 108, suite 223, Columbia, Maryland 21045

P32–93—Mary D. DeVitis, Manager, Tariff Conversion, D.X.I., Incorporated, 200 Hightower Boulevard, suite 202 Pittsburgh, Pennsylvania 15205

Copies of the petitions are available for examination at the Washington, DC office of the Secretary of the Commission, 800 N. Capitol Street, NW., room 1046.

Joseph C. Polking,

Secretary.

[FR Doc. 93–15318 Filed 6–29–93; 8:45 am]

BILLING CODE 6730–01–M

FEDERAL RESERVE SYSTEM

Fleet Financial Group, Inc., et al.; Notice of Applications to Engage de novo in Permissible Nonbanking Activities

The companies listed in this notice have filed an application under § 225.23(a)(1) of the Board's Regulation Y (12 CFR 225.23(a)(1)) for the Board's approval under section 4(c)(8) of the Bank Holding Company Act (12 U.S.C. 1843(c)(8)) and § 225.21(a) of Regulation Y (12 CFR 225.21(a)) to commence or to engage *de novo*, either directly or

through a subsidiary, in a nonbanking activity that is listed in § 225.25 of Regulation Y as closely related to banking and permissible for bank holding companies. Unless otherwise noted, such activities will be conducted throughout the United States.

Each application is available for immediate inspection at the Federal Reserve Bank indicated. Once the application has been accepted for processing, it will also be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing on the question whether consummation of the proposal can "reasonably be expected to produce benefits to the public, such as greater convenience, increased competition, or gains in efficiency, that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition, conflicts of interests, or unsound banking practices." Any request for a hearing on this question must be accompanied by a statement of the reasons a written presentation would not suffice in lieu of a hearing, identifying specifically any questions of fact that are in dispute, summarizing the evidence that would be presented at a hearing, and indicating how the party commenting would be aggrieved by approval of the proposal.

Unless otherwise noted, comments regarding the applications must be received at the Reserve Bank indicated or the offices of the Board of Governors not later than July 20, 1993.

A. Federal Reserve Bank of Boston (Robert M. Brady, Vice President) 600 Atlantic Avenue, Boston, Massachusetts 02106:

1. Fleet Financial Group, Inc., Providence, Rhode Island; to engage *de novo* through its subsidiary, Fleet Factors Corporation, New York, New York, in making, acquiring, or servicing loans or other extensions of credit for the subsidiary's own account or for the account of others, such as would be made by a mortgage, commercial finance and factoring company pursuant to § 225.25(b)(1); leasing personal or real property or acting as agent, broker or adviser in leasing such property pursuant to § 225.25(b)(5); and providing to others data processing and data transmission services, facilities, data bases, or access to such services, facilities, or data bases by any technological means pursuant to § 225.25(b)(7) of the Board's Regulation Y.

B. Federal Reserve Bank of Chicago (James A. Bluemle, Vice President) 230 South LaSalle Street, Chicago, Illinois 60690:

1. Northern Bankshares, Inc., McFarland, Wisconsin; to engage *de novo* in making and servicing loans pursuant to § 225.25(b)(1) of the Board's Regulation Y. These activities will be conducted within the State of Wisconsin.

C. Federal Reserve Bank of Kansas City (John E. Yorke, Senior Vice President) 925 Grand Avenue, Kansas City, Missouri 64198:

1. Bushnell Bancorp, Bushnell, Nebraska; to engage *de novo* through its subsidiary, Kimball County Bank, Bushnell, Nebraska, in making and servicing loans and purchasing loan participation bank pursuant to § 225.25(b)(1) of the Board's Regulation Y.

D. Federal Reserve Bank of San Francisco (Kenneth R. Binning, Director, Bank Holding Company) 101 Market Street, San Francisco, California 94105:

1. BankAmerica Corporation, San Francisco, California; to engage *de novo* through its subsidiary, BA Securities, Inc., Seattle, Washington, in providing investment or financial advice, including financial feasibility studies, fairness opinions and valuation services in connection with mergers, acquisitions, divestitures, leveraged buyouts, recapitalizations, capital restructurings and financing transactions pursuant to § 225.25(b)(4)(vi)(A)(1); providing advice to state and local governments pursuant to § 225.25(b)(4)(v); advice on structuring and arranging of swaps and caps and similar hedging advice relating to interest rates and currency exchange rates and economic and financial indices, primarily with respect to project finance activities pursuant to § 225.25(b)(4)(vi)(A)(2); and advice on portfolio investments, primarily in connection with the project finance activities and involving advice to companies on investments such as investments in oil and gas leases pursuant to § 225.25(b)(4)(iii); and providing full service brokerage activities pursuant to § 225.25(b)(15) of the Board's Regulation Y, including brokerage services in combination with permissible investment advisory services pursuant to § 225.25(b)(15) of the Board's Regulation Y.

Board of Governors of the Federal Reserve System, June 25, 1993.

Jennifer J. Johnson,

Associate Secretary of the Board.

[FR Doc. 93–15448 Filed 6–29–93; 8:45 am]

BILLING CODE 6210–01–F

The Royal Bank of Scotland Group, plc.; Formations of; Acquisitions by; and Mergers of Bank Holding Companies; Correction

This notice corrects a previous notice (FR Doc. 93–13537) published at page 32359 of the issue for Wednesday, June 9, 1993.

Under the Federal Reserve Bank of Boston heading, the entry for The Royal Bank of Scotland Group, plc is revised to read as follows:

A. Federal Reserve Bank of Boston (Robert M. Brady, Vice President) 600 Atlantic Avenue, Boston, Massachusetts 02106:

1. The Royal Bank of Scotland Group, plc, Edinburgh, Scotland; The Royal Bank of Scotland, Edinburgh, Scotland; Citizens (U.K.) Limited, Edinburgh, Scotland; and Citizens Financial Group, Inc., Providence, Rhode Island; to acquire 100 percent of the voting shares of The Boston Five Cents Savings Bank, F.S.B., Boston, Massachusetts ("Boston Five"), pursuant to § 225.25(b)(9) of the Board's Regulation Y.

Upon the acquisition, Boston Five will convert to a state bank under section 3(a)(3) of the Bank Holding Company Act, and merge with Applicant's state savings bank subsidiary. Boston Five also engages in the sale of Savings Bank Life Insurance.

Comments on this application must be received by July 12, 1993.

Board of Governors of the Federal Reserve System, June 25, 1993.

Jennifer J. Johnson,

Associate Secretary of the Board.

[FR Doc. 93–15449 Filed 6–29–93; 8:45 am]

BILLING CODE 6210–01–F

Ray J. Starner, et al.; Change in Bank Control Notices; Acquisitions of Shares of Banks or Bank Holding Companies

The notificants listed below have applied under the Change in Bank Control Act (12 U.S.C. 1817(j)) and § 225.41 of the Board's Regulation Y (12 CFR 225.41) to acquire a bank or bank holding company. The factors that are considered in acting on the notices are set forth in paragraph 7 of the Act (12 U.S.C. 1817(j)(7)).

The notices are available for immediate inspection at the Federal Reserve Bank indicated. Once the notices have been accepted for processing, they will also be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing to the Reserve Bank indicated for that notice or to the offices of the Board of

Governors. Comments must be received not later than July 20, 1993.

A. Federal Reserve Bank of Philadelphia (Thomas K. Desch, Vice President) 100 North 6th Street, Philadelphia, Pennsylvania 19105:

1. Ray J. Starner, East Stroudsburg, Pennsylvania; Edward G. Martin, Naples, Florida; and James T. McHale, Esq., Clarks Green, Pennsylvania; to function as Trustees under a Voting Trust Agreement and to acquire 46.5 percent of the common stock and 61.6 percent of the preferred stock of First Lehigh Corporation, Allentown, Pennsylvania, and thereby indirectly acquire First Lehigh Bank, Allentown, Pennsylvania.

B. Federal Reserve Bank of San Francisco (Kenneth R. Binning, Director, Bank Holding Company) 101 Market Street, San Francisco, California 94105:

1. Kaharudin Latief, Jakarta, Indonesia; to acquire 35 percent of the voting shares of Bank of San Francisco Company Holding Company, San Francisco, California, and thereby indirectly acquire Bank of San Francisco, San Francisco, California.

Board of Governors of the Federal Reserve System, June 25, 1993.

Jennifer J. Johnson,

Associate Secretary of the Board.

[FR Doc. 93–15450 Filed 6–29–93; 8:45 am]

BILLING CODE 6210–01–F

Wilmington Trust Corporation; Formation of, Acquisition by, or Merger of Bank Holding Companies

The company listed in this notice has applied for the Board's approval under section 3 of the Bank Holding Company Act (12 U.S.C. 1842) and § 225.14 of the Board's Regulation Y (12 CFR 225.14) to become a bank holding company or to acquire a bank or bank holding company. The factors that are considered in acting on the applications are set forth in section 3(c) of the Act (12 U.S.C. 1842(c)).

The application is available for immediate inspection at the Federal Reserve Bank indicated. Once the application has been accepted for processing, it will also be available for inspection at the offices of the Board of Governors. Interested persons may express their views in writing to the Reserve Bank indicated for that application or to the offices of the Board of Governors. Any comment on an application that requests a hearing must include a statement of why a written presentation would not suffice in lieu of a hearing, identifying specifically any questions of fact that are in dispute and summarizing the evidence that would be presented at a hearing.

Comments regarding this application must be received not later than July 23, 1993.

A. Federal Reserve Bank of Philadelphia (Thomas K. Desch, Vice President) 100 North 6th Street, Philadelphia, Pennsylvania 19105:

1. Wilmington Trust Corporation, Wilmington, Delaware; to acquire 100 percent of the voting shares of Freedom Valley Bank, West Chester, Pennsylvania.

Board of Governors of the Federal Reserve System, June 25, 1993.

Jennifer J. Johnson,

Associate Secretary of the Board.

[FR Doc. 93–15451 Filed 6–29–93; 8:45 am]

BILLING CODE 6210–01–F

GENERAL SERVICES ADMINISTRATION

Change in Solicitation Procedures Under the Small Business Demonstration Program

AGENCY: Office of Acquisition Policy, GSA.

ACTION: Notice.

SUMMARY: Title VII of the "Business Opportunity Development Act of 1988" (Public Law 100–656) established the Small Business Competitiveness Demonstration Program and designated nine (9) agencies, including GSA, to conduct the program over a four (4) year period from January 1, 1989 to December 31, 1992. The Small Business Opportunity Enhancement Act of 1992 (Public Law 102–366) extended the demonstration program until September 30, 1996 and made certain changes in the procedures for operation of the demonstration program. The law designated four (4) industry groups for testing whether the competitive capabilities of the specified industry groups will enable them to successfully compete on an unrestricted basis. The four (4) industry groups are: Construction (except dredging); architectural and engineering (A&E) services (including surveying and mapping); refuse systems and related services (limited to trash/garbage collection services); and non-nuclear ship repair. Under the program, when a participating agency misses its small business participation goal, restricted competition is reinstituted only for those contracting activities that failed to attain the goal. The small business goal is 40 percent of the total contract dollars awarded for construction, trash/garbage collection services, and non-nuclear ship repair and 35 percent of the total contract dollars awarded for architect-engineer services. This notice announces modifications to GSA's solicitation practices under the demonstration program based on a review of the agency's performance during the period from April 1, 1992 to March 31, 1993. Modifications to solicitation practices are outlines in the Supplementary Information section below and apply to solicitations issued on or after July 1, 1993.

EFFECTIVE DATE: July 1, 1993.

FOR FURTHER INFORMATION CONTACT:

Ida Ustad, Office of GSA Acquisition Policy (202) 501–1224.

SUPPLEMENTARY INFORMATION:

Procurements of construction or trash/garbage collections with an estimated value of $25,000 or less and procurements of A&E services with an estimated value of $50,000 or less will be reserved for emerging small business concerns in accordance with the procedures outlined in the interim policy directive issued by the Office of Federal Procurement Policy (58 FR 13513, March 11, 1993).

Procurements of construction or trash/garbage collections with an estimated value that exceeds $25,000 and procurements of A&E services with an estimated value that exceeds $50,000 by GSA contracting activities will be made in accordance with the following procedures:

Construction Service in Groups 15, 16 and 17

Procurements for all construction services (except solicitations issued by GSA contracting activities in Regions 2, 5, and 9 for services in SIC 1794) will be conducted on an unrestricted basis.

Procurements for construction services in SIC 1794 issued by GSA contracting activities in Regions 2, 5, and 9 will be set aside for small business when there is a reasonable expectation of obtaining competition from two or more small businesses. If no expectation exists, the procurements will be conducted on an unrestricted basis.

Region 2 encompasses the states of Connecticut, Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, New Jersey, New York, Puerto Rico, and Virgin Islands.

Region 5 encompasses the states of Illinois, Indiana, Ohio, Michigan, Minnesota, and Wisconsin. Region 9 encompasses the states of Arizona, California, Hawaii, and Nevada.

Trash/Garbage Collection Services in PSC S205

Procurements for trash/garbage collection services in PSC S205 will be conducted on an unrestricted basis.

Architect-Engineer Services (All PSC Codes Under the Demonstration Program)

Procurements for all architect-engineer services (except solicitations issued by contracting activities in GSA Central Office and Regions 2, 3, and 6) will be conducted on an unrestricted basis.

Procurements for architect-engineer services issued by GSA contracting activities in GSA Central Office and Regions 2, 3, and 6 will be set aside for small business when there is a reasonable expectation of obtaining competition from two or more small businesses. If no expectation exists, the procurements will be conducted on an unrestricted basis.

GSA Central Office is located in Washington, DC. Region 2 encompasses the states of Connecticut, Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, New Jersey, New York, Puerto Rico, and Virgin Islands. Region 3 encompasses the states of Pennsylvania, Delaware, West Virginia, Maryland (except Montgomery and Prince Georges counties) and Virginia (except the city of Alexandria and the counties of Arlington, Fairfax, Loudoun and Prince William). Region 6 encompasses the states of Iowa, Kansas, Missouri, and Nebraska.

Non-Nuclear Ship Repair

GSA does not procure non-nuclear ship repairs.

Dated: June 18, 1993.

Richard H. Hopf, III,

Associate Administrator for Acquisition Policy.

[FR Doc. 93–15323 Filed 6–29–93; 8:45 am]

BILLING CODE 6820–61–M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

Epidemiologic Study of Mortality Patterns Among Uranium Conversion and Enrichment Workers; Meeting

The National Institute for Occupational Safety and Health (NIOSH) of the Centers for Disease Control and Prevention (CDC) announces the following meeting.

Name: Epidemiologic Study of Mortality Patterns Among Uranium Conversion and Enrichment Workers.

Time and Date: 9 a.m.–4:30 p.m., July 16, 1993.

Place: Alice Hamilton Laboratory, Energy Activity Conference Room (B227), NIOSH, CDC, 5555 Ridge Avenue, Cincinnati, Ohio 45213.

Status: Open to the public, limited only by the space available.

Purpose: The purpose of the meeting is to obtain individual advice and guidance regarding the technical and scientific merits of the proposed Epidemiologic Study of Mortality Patterns Among Uranium Conversion and Enrichment Workers being conducted at NIOSH. The individual participants will review the proposed study protocol, recommend changes of scientific merit, and advise on the conduct of the study. Viewpoints and suggestions from industry, labor, academia, other government agencies, and the public are invited.

Contact Person for Additional Information: James H. Stebbings, Sc.D., NIOSH, CDC, 4676 Columbia Parkway, Mailstop R–44, Cincinnati, Ohio 45226, telephone 513/841–4400.

Dated: June 24, 1993.

Elvin Hilyer,

Associate Director for Policy Coordination, Centers for Disease Control and Prevention (CDC).

[FR Doc. 93–15360 Filed 6–29–93; 8:45 am]

BILLING CODE 4160–19–M

Food and Drug Administration

[Docket No. 93N–0100]

Kumar Prasad; Debarment Order

AGENCY: Food and Drug Administration, HHS.

ACTION: Notice.

SUMMARY: The Food and Drug Administration (FDA) is issuing an order under section 306(a)(2) of the Federal Food, Drug, and Cosmetic Act (the act) (21 U.S.C. 335a(a)(2)) permanently debarring Mr. Kumar Prasad, 13439 Puyton Dr., #122, Chino Hills, CA 91710, from providing services in any capacity to a person that has an approved or pending drug product application. FDA bases this order on a finding that Mr. Prasad was convicted of a felony under Federal law for conduct relating to the development and approval, including the process for development and approval, of a drug product; and relating to the regulation of a drug product under the act. Mr. Prasad has failed to request a hearing and, therefore, has waived his opportunity for a hearing concerning this action.

EFFECTIVE DATE: June 30, 1993.

ADDRESSES: Application for termination of debarment should be sent to the Dockets Management Branch (HFA–305), Food and Drug Administration, 12420 Parklawn Dr., rm. 1–23, Rockville, MD 20857.

FOR FURTHER INFORMATION CONTACT: Megan Foster, Center for Drug Evaluation and Research (HFD–366), Food and Drug Administration, 7500 Standish Pl., Rockville, MD 20855, 301–295–8041.

SUPPLEMENTARY INFORMATION:

I. Background

On February 5, 1993, the United States District Court for the District of Maryland entered judgment against Mr. Kumar Prasad for one count of making a false statement in a matter within the jurisdiction of an agency of the United States, a Federal felony offense under 18 U.S.C. 1001.

As a result of this conviction, FDA served Mr. Prasad by certified mail on April 7, 1993, a notice proposing to permanently debar him from providing services in any capacity to a person that has an approved or pending drug product application and offered him an opportunity for a hearing on the proposal. The proposal was based on a finding, under section 306(a)(2)(A) and (a)(2)(B) of the act, that he was convicted of a felony under Federal law for conduct (1) relating to the development and approval, including the process for development and approval, of a drug product; and (2) relating to the regulation of a drug product under the act. Mr. Prasad did not request a hearing. His failure to request a hearing constitutes a waiver of his opportunity for a hearing and a waiver of any contentions concerning his debarment.

II. Findings and Order

Therefore, the Deputy Commissioner for Operations, under section 306(a) of the act, and under authority delegated to her (21 CFR 5.20), finds that Mr. Kumar Prasad has been convicted of a felony under Federal law for conduct (1) relating to the development and approval, including the process for development and approval, of a drug product (21 U.S.C. 335a(a)(2)(A)); and (2) relating to the regulation of a drug product (21 U.S.C. 335a(a)(2)(B)).

As a result of the foregoing findings, Mr. Kumar Prasad is permanently debarred from providing services in any capacity to a person with an approved or pending drug product application under section 505, 507, 512, or 802 of the act (21 U.S.C. 355, 357, 360b, or 382), or under section 351 of the Public Health Service Act (42 U.S.C. 262), effective June 30, 1993 (21 U.S.C.

335a(c)(1)(B) and (c)(2)(A)(ii) and 21 U.S.C. 321(ee)). Any person with an approved or pending drug product application who knowingly uses the services of Mr. Prasad in any capacity, during his period of debarment, will be subject to civil money penalties. If Mr. Prasad, during his period of debarment, provides services in any capacity to a person with an approved or pending drug product application, he will be subject to civil money penalties. In addition, FDA will not accept or review any abbreviated new drug application or abbreviated antibiotic drug application from Mr. Prasad during his period of debarment.

Any application by Mr. Prasad for termination of debarment under section 306(d)(4) of the act (21 U.S.C. 335a(d)(4)) should be identified with Docket No. 93N–0100 and sent to the Dockets Management Branch (address above). All such submissions are to be filed in four copies. The public availability of information in these submissions is governed by 21 CFR 10.20(j). Publicly available submissions may be seen in the Dockets Management Branch between 9 a.m. and 4 p.m., Monday through Friday.

Dated: June 17, 1993.

Jane E. Henney,

Deputy Commissioner for Operations.

[FR Doc. 93–15401 Filed 6–29–93; 8:45 am]

BILLING CODE 4160–01–F

Health Care Financing Administration

[BPD–740–FN]

RIN 0938–AF56

Medicare and Medicaid Programs; Recognition of the Joint Commission on Accreditation of Healthcare Organizations Standards for Home Care Organizations

AGENCY: Health Care Financing Administration (HCFA), HHS.

ACTION: Final notice.

SUMMARY: This final notice recognizes accreditation by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) for home health agencies (HHAs) that wish to participate in the Medicare or Medicaid programs. As a result of this recognition, HHAs accredited by JCAHO are deemed to meet the Medicare conditions of participation for HHAs to the extent described in this notice. This final notice sets forth certain specific requirements with which JCAHO must comply to maintain Medicare and Medicaid recognition of its HHA accreditation program.

EFFECTIVE DATE: This final notice is effective on September 28, 1993.

FOR FURTHER INFORMATION CONTACT: John J. Thomas, (410) 966–4623.

SUPPLEMENTARY INFORMATION:

I. Background

Providers of health care services participate in the Medicare and Medicaid programs under provider agreements with HCFA (for Medicare) and State Medicaid agencies (for Medicaid). Generally, in order to enter into a provider agreement, an entity must first be certified by a State survey agency as complying with the requirements set forth in Federal law. Providers are subject to various surveys by State survey agencies to ensure that the providers continue to meet these requirements.

The Social Security Act (the Act) includes provisions that permit exemption of certain entities from routine surveys by State survey agencies for determining compliance with Medicare conditions of participation. Specifically, section 1865(a) of the Act permits the "deeming" of entities as meeting the applicable Medicare conditions if the entities are accredited by a national accrediting organization. That is, if we find that the accreditation of entities by a national accrediting body provides reasonable assurance that the Medicare conditions of participation are met, then we may deem these entities as meeting the conditions of participation.

A national accrediting organization may request that we recognize its program as providing reasonable assurance that some or all of the Medicare conditions are met. We then examine the requesting organization's accreditation process to determine if the process provides reasonable assurance that the entities accredited by the organization meet the Medicare conditions of participation as we would apply them. If we recognize an accrediting organization in this manner, any entity accredited by the recognized national accrediting body will be deemed to meet the Medicare conditions of participation and will, therefore, not be subject to routine surveys by the State survey agency.

As a result of this notice, HHAs accredited by JCAHO are deemed to meet the requirements for participation in the Medicare program and, therefore, may participate in the Medicaid program as a provider of home health services. We are currently considering the development of a separate rule that would permit the States to apply more stringent State-specific requirements for HHA participation in the Medicaid program. However, our recognition of JCAHO does not affect in any way a State's independent authority to license providers and inspect such providers to ensure compliance with its licensure standards.

In section 4039(f) of the Omnibus Budget Reconciliation Act of 1987 (Pub. L. 100–203), Congress imposed a special requirement on our approval of national accrediting organizations. Under that section, publication of a final notice recognizing accreditation by a national organization as deeming a provider to meet the Medicare conditions of participation or requirements is necessary to implement section 1865(a) of the Act. Publication of the final notice must follow the publication of a proposed notice by at least 6 months.

II. Provisions of the Proposed Notice and This Final Notice

In the February 3, 1992 proposed notice (57 FR 4044), we stated our determination that accreditation by JCAHO provides reasonable assurance that an HHA meets the Medicare conditions of participation for HHAs. We also described our initial review of the JCAHO standards, scoring guidelines, survey procedures (JCAHO's "Home Care Standards for Accreditation", "Accreditation Manual for Home Care", and "Key to Quality", respectively), our meetings with JCAHO staff, and our subsequent comparison of JCAHO's revised 1991 standards for HHAs seeking accreditation or re-accreditation with the Medicare conditions of participation and survey and certification procedures.

The proposed notice described our process for determining that JCAHO accreditation provided reasonable assurance that Medicare conditions are met. The proposed notice also discussed in detail the areas of discrepancy between the JCAHO standards and Medicare conditions, the effect these discrepancies had on our determination of reasonable assurance, and the resolution of these discrepancies.

In addition, the proposed notice stated that we would remove recognition of JCAHO accreditation if either of the following circumstances occur:

- JCAHO revises its standards so that the revised standards fail to provide reasonable assurance that JCAHO-accredited HHAs meet the Medicare conditions of participation. Conversely, we revise the Medicare HHA conditions of participation to such a degree that JCAHO's standards or accreditation policies would no longer provide reasonable assurance that JCAHO-

accredited HHAs meet the conditions of participation; or

• Our validation or complaint surveys reveal widespread, systematic, or unresolvable problems with the JCAHO accreditation process, thereby providing evidence that there is not reasonable assurance that JCAHO-accredited HHAs meet the Medicare conditions of participation.

The proposed notice also reserved our right to perform, as appropriate, announced and unannounced validation and complaint surveys to ensure that JCAHO-accredited HHAs that participate in Medicare meet the Medicare conditions of participation.

The proposed notice also made our recognition of JCAHO's accreditation program contingent on JCAHO's continued agreement to:

• Release JCAHO survey reports to us routinely and to the public upon request. If the reports reveal deficiencies which we believe warrant action by us, we may survey the HHAs identified as having deficiencies, withdraw recognition of the accreditation program if appropriate, and apply any other appropriate corrective measures or sanctions. The information to be released includes the accreditation findings, supporting documentation, the official accreditation survey reports of JCAHO surveyors, and other related information.

• Report to either the Office of Inspector General (OIG) (for Medicare) or to the State agency responsible for investigating fraud and abuse (for Medicaid), or to both, complaints received from persons working in the accredited HHA or any substantial complaints from others, anonymous or identified, concerning potential fraud and abuse violations, and any other indication of a Medicare or Medicaid program abuse encountered by JCAHO during a JCAHO inspection.

• Make JCAHO surveyors available to serve as witnesses if adverse action is taken by HCFA after JCAHO accreditation has been withdrawn.

Finally, we proposed to make our approval of JCAHO's accreditation program contingent on the following revisions to JCAHO's survey and accreditation process (JCAHO had already agreed to make these changes):

• Implementation of an annual, unannounced survey of those HHAs requesting JCAHO accreditation for Medicare deeming purposes.

• Adoption of the standardized functional assessment instrument used by HCFA and State agency surveyors and training of the JCAHO surveyors in its use.

• Adoption of a case-mix, stratified random sampling process and sample sizes of clinical records for review and home visits comparable to HCFA's.

• Maintenance of a timeframe and process for following up deficiencies found during an HHA survey comparable to HCFA's.

In the proposed notice, we discussed three issues that need further clarification. First, we proposed to remove our recognition of JCAHO accreditation if we determine that JCAHO standards no longer provide reasonable assurance that JCAHO-accredited HHAs meet the Medicare conditions of participation. We did not, however, set forth our specific procedures for determining whether JCAHO-accredited HHAs meet the conditions of participation in the event our recognition of JCAHO is withdrawn. Basically, an affected HHA's deemed status would continue for a limited time during which the HHA could seek either Medicare certification or accreditation by another approved accreditation organization. A further explanation of this issue is contained below in response to a comment.

Second, when we developed the proposed notice, we did not consider the effect of the provisions of section 4206 of Pub. L. 101–508 that concern advance directives. JCAHO accreditation standards have been revised to provide assurance that JCAHO-accredited HHAs provide each patient, in advance of coming under the HHA's care, with written information concerning an individual's rights under State law to make decisions concerning medical care. These rights include the right to accept or refuse medical or surgical treatment, the right to formulate advance directives, and the right to review the written policies of the HHA regarding the implementation of these rights, including a statement of limitation if the provider cannot implement an advance directive on the basis of conscience.

Third, we need to clarify JCAHO's agreement to implement annual, unannounced surveys of those HHAs requesting JCAHO accreditation for Medicare deeming purposes and to meet the provisions of section 1891 of the Act which establishes the requirements for standard, partial extended and extended surveys.

JCAHO has agreed to conduct annual, unannounced standard surveys and partial extended or extended surveys as follows. The JCAHO Medicare Decision Rules, which establish JCAHO "deemed status" survey procedures, specify that the standard JCAHO Medicare survey will be expanded to a partial extended survey when the conditions of participation are found to be met, but the standard JCAHO Medicare survey indicates further evaluation is needed, usually in a specific area or service not fully addressed in the Medicare standard survey. The Decision Rules recommend that the JCAHO Medicare standard survey be fully extended when one or more of the conditions of participation are not met, or an immediate threat to patient or public health and safety exists within an organization.

In this final notice, we are adopting the provisions of the February 3, 1992 proposed notice with the above revisions. As a result of this final notice, HHAs accredited by JCAHO will not be subject to routine inspection by Medicare State survey agencies to determine their compliance with Federal requirements. Rather, they will be deemed to meet the Medicare conditions of participation. As appropriate, however, we will perform announced and unannounced validation and complaint surveys of HHAs to assure that JCAHO-accredited HHAs that participate in Medicare meet the Medicare conditions of participation. As established in the proposed notice of February 3, 1992, we may withdraw recognition of JCAHO accreditation of HHAs at any time if we determine that JCAHO accreditation does not continue to provide reasonable assurance that Medicare conditions of participation are met.

In conclusion, we believe that the JCAHO accreditation standards and survey processes, subject to the above requirements, provide us with reasonable assurance that the Medicare conditions of participation have been met. Accordingly, subject to those requirements, we will deem HHAs accredited by JCAHO beginning September 28, 1993, to be in compliance with the Medicare conditions of participation for HHAs in accordance with the authority provided in section 1865 of the Act.

Because we have found accreditation by JCAHO to provide the necessary "reasonable assurance" required by law, and because the publication of this final notice follows the publication of our February 3, 1992 proposed notice by at least 6 months as required by section 4039(f) of Public Law 100–203, and because of the other actions taken with respect to this final notice, we have fulfilled the statutory requirements governing the recognition of national accrediting organizations. Therefore, our recognition of the JCAHO HHA accreditation program will be complete 90 days after the publication of this

notice, subject to JCAHO's continued compliance with the requirements established in this final notice.

III. Discussion of Comments

We received correspondence from 100 commenters, including professional organizations and associations, HHAs, public health departments, State governmental agencies, universities, and individuals on the provisions of the proposed notice. A summary of the public comments and our responses follow.

Comment: 69 commenters expressed support for the proposed notice.

Response: We acknowledge the support for the provisions in the proposed notice, and we have developed a final notice consistent with those provisions.

Comment: One commenter asked if an HHA with deemed status is also considered to meet the requirements for participation in Medicaid.

Response: Our regulations at 42 CFR 440.70(d) define an HHA for purposes of participation in the Medicaid program as a "public or private agency or organization, or part of an agency or organization, that meets requirements for participation in Medicare." Because we have determined that accreditation by JCAHO provides reasonable assurance that an accredited HHA meets the Medicare HHA conditions of participation, such an HHA would also be considered to meet the requirements of § 440.70 and could, therefore, participate in the Medicaid program as a provider of home health services. However, we are considering the development of a regulation that would permit States to apply more stringent, State-specific requirements for participation in the Medicaid program. Our recognition of JCAHO does not affect in any way a State's independent authority to license providers and inspect such providers to ensure compliance with its licensure standards.

Comment: Several commenters expressed concern that JCAHO accreditation does not provide reasonable assurance that Medicare requirements are met because, in general, private accreditation organizations are financially dependent upon the accreditation fees paid by accredited providers. These commenters are concerned that JCAHO will be reluctant to withdraw accreditation from an HHA because such a withdrawal would preclude the collection of any future accreditation fees from the sanctioned agency.

Response: We do not agree with the comment. Our examination of the JCAHO accreditation program revealed no indication that JCAHO was unwilling to revoke an HHA's accreditation for fear of being deprived of that agency's accreditation fee. Furthermore, as one of the conditions upon which recognition of accreditation is granted to JCAHO, we retain the right to withdraw the recognition if, as specified in this notice, "validation or complaint surveys reveal widespread, systematic, or unresolvable problems with the JCAHO accreditation process, thereby providing evidence that there is not reasonable assurance that JCAHO-accredited HHAs meet the Medicare conditions of participation." If we ever determine that JCAHO, in contradiction to its own guidelines, is continuing accreditation to HHAs not meeting the Medicare conditions of participation, we will move to withdraw recognition of JCAHO accreditation.

Comment: Several commenters opposed recognition of the JCAHO HHA accreditation program on the general basis that it does not provide sufficient oversight of Medicare-participating HHAs.

Response: We disagree with this comment. As we have explained in both this notice and the February 3, 1992 proposed notice, we have determined that accreditation by JCAHO provides reasonable assurance that Medicare conditions are met. We have determined that JCAHO's agreement to conduct annual, unannounced surveys as well as to use the standardized functional assessment instrument and Medicare's sampling methodology for home visits and record review provides assurance of sufficient oversight. Also, this notice reserves our right to revoke our recognition of the JCAHO program should we determine that JCAHO has failed to properly adopt these standards and practices or that, for any reason, JCAHO accreditation no longer provides reasonable assurance that an HHA meets the Medicare conditions of participation.

Comment: Several commenters requested that we delay final recognition of any HHA accreditation organization until the publication of the final rule implementing the HHA survey and enforcement provisions of the Omnibus Budget Reconciliation Act of 1987 (Pub. L. 100–203).

Response: We believe a delay in recognizing HHA accreditation organizations is unnecessary because the process involved in approving an accrediting body for deeming purposes does not require that the survey and enforcement provisions of Public Law 100–203 be implemented. We can recognize any national accrediting body whose requirements provide reasonable assurance that those Medicare conditions in effect at that time are met. Recognition of JCAHO is contingent on its standards continuing to provide reasonable assurance that Medicare conditions are met and enforced. Should JCAHO fail to sufficiently revise its standards to the extent necessary to provide reasonable assurance that revised Medicare conditions are met and enforced, we would move to withdraw our recognition of the JCAHO accreditation program and, thus, the deemed status of JCAHO-accredited HHAs.

Comment: Several commenters requested that we delay the recognition of any private accreditation program until after the publication of the final rule that will establish the general process for the granting and withdrawal of deemed status. The commenters believe that the recognition of any accreditation program before the final publication of the general deeming rule will deprive the public of a full understanding of the process by which we examine accreditation organizations that apply for recognition and will undermine the validity of our determinations regarding the granting of deemed status to providers.

Response: We have not accepted this comment. The general process for granting and withdrawal of deemed status was described in a proposed rule published in the Federal Register on December 14, 1990 (55 FR 51434). This proposed rule set forth the procedure that we would use to review and approve national accrediting organizations that wish to be recognized as providing reasonable assurance that Medicare conditions are met. The proposed rule also set forth the standards and procedures that we would use to remove our approval of a national accrediting body. This rule is not required by statute but is being developed to provide for additional public input and guidance on the deeming issue. We are now developing the final rule. Although we believe that the final rule on deemed status will help our future efforts to grant or withdraw deemed status and to continue Federal oversight of accreditation programs, we are not precluded in any way from proceeding with the granting of deemed status before those procedures are issued in a final rule. We described the process by which we analyzed the JCAHO program in our February 3, 1992 proposal to grant deemed status to JCAHO-accredited HHAs. We also detailed the conditions under which we will withdraw our recognition of JCAHO accreditation in both the proposed notice and this notice. As a result of

these efforts, we believe that the public has remained fully informed about our analysis of the JCAHO program and the conditions under which we will grant deemed status to JCAHO-accredited HHAs. We also believe that we have promulgated our recognition of the JCAHO HHA accreditation program in full compliance with all applicable statutory requirements and regulations.

Comment: Several commenters requested that we recognize HHA accreditation by JCAHO and by the Community Health Accreditation Program (CHAP) simultaneously.

Response: We published a final notice granting deemed status to HHAs accredited by CHAP in the **Federal Register** on May 29, 1992 (57 FR 22773). Although we believe that accreditation by either CHAP or JCAHO provides reasonable assurance that an HHA meets the Medicare conditions of participation, we believe that it is best to consider each accreditation program separately and to not link approval of one accrediting program with another.

We decided that this approach is the most fair to all involved parties because it allows each deeming proposal to advance solely on its own merits. If we proposed recognition of one or more accreditation organizations in the same notice, the proposal could not advance until the analysis of both programs is completed and both programs have completed any required revisions. Because different accreditation programs may require different amounts of time to analyze, we do not believe that it would be fair to delay recognition of one program while the analysis of another program is conducted. For this reason, we believe the independent approach that we have taken is fair to both programs. We do not intend for this approach to give one program an advantage over the other, nor do we intend that the accreditation program which first receives Medicare recognition be perceived as being favored over another accreditation organization that may be granted recognition at a later date. We have no preference between recognized private accreditation programs.

Comment: Several commenters expressed concern that private accreditation would eventually be required of all HHAs participating in the Medicare program. Other commenters opposed the proposal on the basis that it would require HHAs to pay accreditation fees to JCAHO, therefore, shifting the financial burden of HHA survey and certification from the government to individual HHAs.

Response: JCAHO accreditation will continue to be voluntary. Our recognition of JCAHO accreditation does not mean that HHAs are required to seek JCAHO accreditation. Therefore, it is entirely the decision of the HHA to incur the fees associated with JCAHO accreditation. Those HHAs that are not accredited by a recognized private accreditation program will continue to be subject to the annual surveys conducted by the State survey agencies. These HHAs will not experience any change from their current survey and certification process as a result of our recognition of JCAHO accreditation. In addition, because accreditation expenses are among the costs recognized by Medicare as related to patient care, Medicare will share in part of the cost of HHA accreditation on the basis of utilization. In this manner, the Medicare program will assume some of the cost of accreditation and help reduce the associated financial burden.

Comment: Several commenters questioned whether the composition of JCAHO's boards and committees ensured adequate consumer input into the formulation of JCAHO accreditation policies and procedures. Similarly, another commenter questioned whether the composition of JCAHO's boards and committees allowed for objective evaluation of HHAs.

Response: Section 1865(a) of the Act requires the Secretary to determine whether accreditation by a national accreditation body provides reasonable assurance that Medicare conditions are met. We have determined that accreditation by JCAHO provides reasonable assurance that an HHA meets the Medicare conditions of participation. Because there are no statutory or regulatory requirements for consumer or provider representation on the governing or advisory boards or committees of private accreditation programs, we have not required JCAHO (or any other recognized accreditation program) to include any specific groups or individuals on such boards or committees. Our primary concern is the content and application of the accreditation standards and procedures, not the composition of the bodies that establish the standards and procedures. The commenters should find it to be of interest, however, that JCAHO's "Key to Quality, A Guide to Joint Commission Home Care Survey and Accreditation", explains that the JCAHO Home Care Professional and Technical Advisory Committee (PTAC) has the ongoing responsibility for standards development, review, and revision, as well as monitoring of the survey process. The Home Care PTAC includes, but is not limited to, a member of the general public and representatives of the following organizations: the American Association of Retired Persons, the National Association for Home Care, the Visiting Nurses Association of America, the National Association of Area Agencies on Aging, and HCFA.

Comment: One commenter suggested that changes to JCAHO accreditation standards be subject to public comment.

Response: We do not believe that a formal process of public notice and comment on any proposed revisions to the JCAHO accreditation standards is necessary to maintain our reasonable assurance that JCAHO-accredited HHAs meet the Medicare conditions of participation. However, it is JCAHO policy to subject all new accreditation standards to field review by accredited HHAs and other interested parties. During this review, any interested parties may comment on the proposed standards.

It is also important to note that changes to the Medicare and Medicaid HHA conditions of participation are subject to public notice and comment. Because JCAHO is obligated to provide us with continued assurance that its accreditation provides reasonable assurance that an accredited HHA meets the Medicare conditions of participation, we believe that there is an additional element of public input into the basic content of the JCAHO accreditation standards. Should we ever determine that JCAHO accreditation no longer provides reasonable assurance that Medicare conditions are met due to changes in the JCAHO standards or procedures (or a failure to change its standards to comply with revised Medicare conditions), we would move to withdraw Medicare recognition of the JCAHO HHA accreditation program.

Comment: Several commenters stated that JCAHO's policy requiring hospital-based HHAs to obtain JCAHO accreditation as a condition of the hospital's JCAHO accreditation restricts the HHA's ability to freely choose a private accreditation program. Another commenter suggested that JCAHO's policy requiring JCAHO surveys of organizations that provide services under contract with accredited HHAs is similarly restrictive.

Response: We agree. The Medicare Act does not restrict the ability of a home health agency to choose among accrediting organizations. It is also our general belief that competition is a healthy force in the marketplace. We do not believe that it is necessary in this notice—which is for the purpose of determining whether there is a "reasonable assurance" that our standards are met by an HHA which has received JCAHO accreditation—to

address this issue. We have raised the issue with the JCAHO, however, and believe that the Commission itself is taking steps to deal with the emergence of other accrediting bodies.

We would note that the College of American Pathologists (CAP), which has its own accreditation program for hospital-based clinical laboratories, has obtained recognition from the JCAHO that its accreditation (in the case of hospitals which have chosen it) will be used by JCAHO in determining accreditation of a hospital instead of JCAHO's own survey of the hospital-based clinical laboratory. The JCAHO has indicated to us that it will fairly and objectively review any request from any national accrediting body for review of its standards, surveyor training and credentials, and survey and decision-making processes in order to provide the opportunity for similar recognition of its program in the context of the JCAHO's program.

Comment: One commenter stated that JCAHO's inclusion of certain Medicare requirements in its scoring guidelines gives the impression that they are a lower priority than the earlier JCAHO standards.

Response: We disagree. Section 1865(a) of the Act provides the Secretary with considerable latitude in determining whether accreditation by a particular organization provides the necessary "reasonable assurance" that Medicare conditions are met. The Act does not specify whether Medicare requirements must be represented in an accrediting body's standards or in its scoring guidelines. JCAHO has designed its scoring guidelines to ensure that an HHA that does not meet the Medicare requirements on a given standard cannot be considered in full compliance with the standard. The HHA must demonstrate compliance with a scoring guideline comparable to the applicable Medicare requirement before the JCAHO surveyor can find that the overall JCAHO standard has been met. We have determined that this system provides reasonable assurance that JCAHO-accredited HHAs meet the Medicare conditions of participation. We will, however, continue to monitor any revisions to both the JCAHO standards and scoring guidelines to determine that the required "reasonable assurance" continues to exist.

Comment: One commenter stated that we should not base our recognition of JCAHO accreditation on JCAHO's promise to adopt Medicare standards and practices.

Response: We agree. We have not based our recognition of JCAHO HHA accreditation on JCAHO's promise to conform its relevant standards and procedures with those of Medicare. We have fully documented any required JCAHO accreditation program revisions and monitored the inclusion of these revisions in the JCAHO "Accreditation Manual for Home Care" and other JCAHO publications. JCAHO has now implemented many of these changes, and will have all necessary revisions implemented by the effective date of this notice. It is important to note that we reserve the right to conduct validation and complaint surveys of JCAHO-accredited HHAs and intend to periodically review both JCAHO's survey files and survey and enforcement procedures at JCAHO's home office and accompany JCAHO surveyors on site visits to ensure that JCAHO is following policies and procedures described to us and to ensure that our requirements are met. Furthermore, we will withdraw Medicare recognition of JCAHO accreditation if we determine that Medicare requirements are not met.

Comment: One commenter disagreed with our emphasis on considering an accrediting organization's total program when determining whether accreditation by that organization provides "reasonable assurance" that Medicare conditions are met. This commenter believed that we should place greater emphasis on determining whether each Medicare requirement can be matched to a directly comparable accreditation requirement. Another commenter agreed with our emphasis on examining the total program rather than simply requiring identical standards.

Response: We agree with the second commenter. Section 1865(a) of the Act requires the Secretary to determine whether accreditation by a given private accreditation program provides "reasonable assurance" that Medicare conditions are met, but does not require the private accreditation program's requirements to be precisely identical to comparable Medicare requirements. We believe that this requirement grants the Secretary broad latitude in determining whether accreditation by a particular program provides the required "reasonable assurance." As we described in the February 3, 1992 proposed notice, our approval of JCAHO's HHA accreditation program is based on both a comparison of individual JCAHO and Medicare standards and an examination of the overall effects of the JCAHO accreditation process. We did this to determine whether JCAHO accreditation as a whole provides reasonable assurance that Medicare conditions are met. Although we found that a small number of Medicare requirements had no directly comparable JCAHO requirements, our examination of the total JCAHO program, including standards, scoring guidelines, and survey procedures, led us to determine that JCAHO accreditation provides reasonable assurance that an HHA meets the Medicare conditions of participation. We used this same approach when we examined the CHAP HHA accreditation program and believe that this approach complies fully with the requirements of section 1865(a) of the Act.

Comment: One commenter asked if JCAHO home care accreditation will be recognized for participation in Medicare as a hospice.

Response: No. This notice recognizes the JCAHO home care accreditation program for purposes of participation in the Medicare program as an HHA. We have found accreditation by this program to provide reasonable assurance that an accredited provider meets the Medicare HHA conditions of participation. JCAHO does not currently offer hospice accreditation. Hospice survey and certification procedures will not be affected by this notice.

Comment: Several commenters requested that we publish a full side-by-side comparison of the Medicare HHA conditions of participation and the JCAHO accreditation standards.

Response: We do not believe this is necessary for the following reasons:

- Our February 3, 1992 **Federal Register** notice that proposed to grant deemed status to JCAHO-accredited HHAs fully described our analysis of the JCAHO accreditation standards and procedures. This notice also discussed changes made by JCAHO in its standards so that they conform more closely with the Medicare conditions of participation as well as differences that remain between specific JCAHO standards and Medicare conditions of participation. We believe that this notice fully explained the rationale on which we based our determination that JCAHO accreditation provides reasonable assurance that the Medicare conditions are met.
- Our analysis of the JCAHO program was not limited to a point-by-point comparison between JCAHO standards and Medicare conditions of participation. In analyzing the JCAHO program, we reviewed all aspects of the JCAHO program, including its survey and enforcement policies and its capacity to manage an increase in the number of HHAs seeking accreditation. Most importantly, the goal of our analysis was to determine whether, when viewed as a whole, JCAHO

accreditation provides reasonable assurance that Medicare conditions are met. That is, the goal of our analysis was to determine whether JCAHO's entire program could be determined to provide reasonable assurance that Medicare conditions are met, rather than to judge the JCAHO standards as "equal to or better" than every specific criterion of the Medicare conditions.

After conducting this overall analysis, we determined that JCAHO accreditation does provide this reasonable assurance. We believe that a simple crosswalk between the JCAHO standards and Medicare conditions, although a useful tool for part of our analysis of the JCAHO program, reflects only a small portion of our analysis, and, in addition to being unnecessary for the reasons stated in the previous paragraph, would fail to reflect the total evaluation that was the basis for our recognition of the JCAHO program.

Comment: One commenter suggested that we allow an annual public comment period for the initial 3 years of JCAHO recognition during which JCAHO-accredited HHAs could comment on JCAHO adherence to the Medicare conditions.

Response: Although we encourage accredited HHAs to inform us if they believe JCAHO accreditation fails to provide reasonable assurance that Medicare conditions are met, we do not believe that an official annual public notice and comment period is necessary. We emphasize that our recognition of JCAHO accreditation for purposes of participation in the Medicare program is contingent on our continued determination that JCAHO accreditation provides reasonable assurance that Medicare conditions are met. HHAs are free to contact us or the State at any time should they have any complaints or comments on JCAHO's standards or procedures. We (or the State) will respond to these comments or complaints in an appropriate manner, including reviewing JCAHO standards and guidelines and conducting validation surveys. Validation surveys in particular will provide a direct comparison between the effects of JCAHO and Medicare surveys. We believe that the establishment of an annual official comment period would slow the process of investigating HHA comments or complaints with burdensome requirements and possibly discourage HHA comments during times other than the official comment period.

Comment: Several commenters opposed the proposal on the basis that it would result in a reduction of Federal funds directed to State survey and enforcement efforts. The commenters are concerned that such a reduction in funds could threaten a State's ability to effectively monitor HHAs.

Response: The level of funding of the State's survey agency will continue to be based on its Medicare survey and enforcement workload. Funding of the State survey agencies will be commensurate with workload and the number of HHAs involved. Also, each State remains free to develop and implement its own State HHA licensure and survey practices should it determine additional HHA oversight is necessary.

Comment: One commenter suggested that any survey funds that are saved as a result of our recognition of the JCAHO HHA accreditation program should be diverted to JCAHO for purposes of reducing HHA accreditation fees.

Response: Federal funds budgeted for State survey and certification activities cannot be diverted to private accreditation organizations. The purpose of this notice is to recognize the JCAHO HHA accreditation program, not to subsidize it. HHAs that choose not to seek accreditation by JCAHO because of the involved expenses will continue to be subject to the annual surveys conducted by the State survey agency. Also, as we mentioned above, as accreditation expenses are among the costs recognized by Medicare as related to patient care, Medicare will participate in a facility's costs of HHA accreditation.

Comment: One commenter opposed the proposal on the basis that State surveyors' knowledge of local conditions and practices make them best equipped to assess the HHAs in a particular area.

Response: Although we do not disagree that State surveyors are well qualified to perform HHA surveys, we believe that JCAHO's required surveyor credentials provide reasonable assurance that Medicare requirements for surveyor qualifications are met. JCAHO requires an HHA surveyor to be a registered nurse with at least 5 years home care experience, including 3 years in an administrative capacity. The surveyor must have experience in a wide range of clinical care provided in the home, and must have a bachelor of science degree in nursing, with a master's degree preferred in a clinical specialty, public health, or health care administration. JCAHO is currently training its surveyors in use of the functional assessment instrument, the Medicare sampling methodology, and other Medicare survey procedures.

Comment: Several commenters did not support JCAHO's agreement to conduct annual surveys. These commenters believe that we should recognize JCAHO's triennial survey and, therefore, only require JCAHO-accredited HHAs to undergo State survey in the years that they have not been surveyed by JCAHO.

Response: As we discussed in the February 3, 1992 proposed notice, JCAHO has proposed to maintain its traditional home care accreditation program (which includes a triennial, announced survey) as a separate accreditation program for those providers that do not wish to receive deemed status. Accredited HHAs that wish to receive deemed status would be subject to JCAHO's revised accreditation program (including annual, unannounced surveys) which we recognize in this final notice.

Section 1865(a) of the Act requires the Secretary to determine whether accreditation by a private accrediting body provides reasonable assurance that Medicare conditions are met. Because section 1891(c) of the Act requires annual, unannounced HHA surveys, any recognized HHA accreditation program must also conduct annual, unannounced surveys in order to provide the required "reasonable assurance." Therefore, we cannot recognize JCAHO's traditional triennial home care accreditation program because, in addition to other reasons, accredited HHAs are not subject to annual, unannounced surveys. HHAs that are accredited by JCAHO under its unrecognized 3-year accreditation program will remain subject to annual, unannounced surveys by the State survey agency.

To prevent any confusion that could result from an HHA frequently switching between deemed status and standard Medicare approval, we will require any recognized accreditation program to promptly report to us the withdrawal of any deemed provider from its program. The purpose of this requirement is to ensure that a provider that is claiming payment under Medicare is at all times either accredited by a recognized program or certified by the State as meeting the Medicare conditions of participation.

In addition, JCAHO will encourage HHAs to elect the deemed status option for an entire triennial accreditation cycle. If an HHA decides to withdraw from this option during the triennial accreditation cycle, JCAHO will notify HCFA immediately. Also, JCAHO will not allow the HHA to re-elect the deemed status option during the remainder of the 3-year cycle.

Comment: One commenter cautioned that HHAs accredited under JCAHO's recognized HHA accreditation program

should be clearly distinguished from those that have not received deemed status to avoid misleading consumers and survey personnel.

Response: We agree. JCAHO has agreed to revise both the accreditation award letter and official accreditation report to clearly indicate that the HHA has received an annual, unannounced survey and has been surveyed for compliance with applicable Medicare HHA conditions of participation.

Comment: Several commenters requested clarification of the status of JCAHO-accredited HHAs if we withdraw recognition of JCAHO accreditation of HHAs for purposes of participation in the Medicare program.

Response: Should we withdraw recognition of JCAHO's HHA accreditation program, an affected HHA's deemed status will continue in effect for 60 days after the date of withdrawal. We may extend an HHA's deemed status for an additional 60 days if we determine the HHA has submitted an application within the initial 60-day timeframe to another approved accreditation organization or to us so that compliance with Medicare conditions can be determined. HHAs that receive accreditation by another approved accreditation organization or Medicare certification within the specified time period may continue to participate in the Medicare program without interruption.

Comment: Several commenters requested clarification of the conditions under which sanctions or corrective actions will be applied to HHAs that are found to have serious deficiencies during a JCAHO survey. Another commenter asked that we integrate our recognition of JCAHO HHA accreditation with the application of intermediate sanctions.

Response: JCAHO will not have the authority to apply Medicare corrective actions or alternative sanctions (for example, fines, appointment of temporary management, or suspension of Medicare payments). JCAHO will continue to apply its own corrective measures, such as required actions, warnings, or the withdrawal of accreditation, and is required to disclose survey results to us. If JCAHO survey reports reveal deficiencies that we believe warrant our action, we may conduct our own survey and apply any appropriate sanctions or corrective actions.

With regard to the second comment, we published a proposed rule, "Granting and Withdrawal of Deeming Authority to National Accreditation Organizations", in the **Federal Register** on December 14, 1990 (55 FR 51434). We proposed to establish our authority to accept a recognized accrediting organization's findings as our own and impose intermediate sanctions or other corrective actions immediately based on those findings. We intend to exercise this authority upon the final publication of that rule.

Comment: One commenter stated that we should revise our validation survey standards to assure that JCAHO accreditation is consistent with Federal standards and that validation surveys are conducted consistently. Another commenter suggested that JCAHO accreditation be evaluated under a formal system similar to the State Agency Evaluation Program.

Response: As stipulated in this notice, we reserve the right to conduct announced and unannounced validation surveys to ensure that JCAHO-accredited HHAs participating in Medicare continue to meet the Medicare conditions of participation. We also reserve the right to conduct on-site reviews of JCAHO procedures and processes at its headquarters on a periodic basis. We believe these activities will enable us to determine whether JCAHO accreditation continues to provide reasonable assurance that an accredited HHA meets the Medicare HHA conditions of participation.

With regard to our validation survey standards, guidelines for hospital accreditation validation surveys are currently contained in the State Operations Manual instructions provided to the State survey agencies. We recognize that the hospital accreditation validation survey guidelines may require some revision to accommodate the survey of HHAs. We are now reviewing the guidelines to identify the needs for any revisions. Because guidelines for validation surveys have been previously developed, we do not anticipate that these potential revisions will be so extensive that they will necessitate the delay of our recognition of the JCAHO HHA accreditation program. In addition, the Medicare statute does not require the development of any specific validation survey guidelines as a condition of our recognition of a private accreditation program.

Comment: One commenter suggested that JCAHO be required to inform the State of any new applications for accreditation to ensure the enforcement of State and local laws and regulations.

Response: JCAHO will require HHAs to notify the appropriate State agency of their intent to use JCAHO accreditation for purposes of participation in the Medicare program before applying for accreditation. After notifying the State, the HHA will apply to JCAHO for "deemed status" accreditation. In addition, JCAHO will release its survey reports to us, including the accreditation findings, supporting documentation, the official accreditation survey reports of JCAHO surveyors, and other related information. We will share that information with the States.

Comment: One commenter believes that it is not sufficient to require JCAHO to release survey information to us. The commenter proposed that, in addition to the required JCAHO disclosure, States should be required to respond in writing and take action to correct any deficiencies found by JCAHO. The commenter believes this requirement would ensure stringent State oversight of JCAHO-accredited HHAs.

Response: We do not agree with this comment. The purpose of this final notice is to announce that we will deem HHAs accredited by JCAHO as meeting the Medicare HHA conditions, rather than to impose survey and sanction requirements on the States. Also, we do not believe that it would be sound policy for us to require that the States (or HCFA) respond in writing and take action to correct all JCAHO deficiencies. This requirement would deprive the States of needed flexibility in responding to JCAHO survey reports and be inconsistent with the purpose of the deeming authority under section 1865(a) of the Act. For example, while some JCAHO deficiencies might clearly require State response, others may relate only to JCAHO standards that have no equivalent in the Medicare conditions of participation. In other cases, the State, on our behalf, may determine that JCAHO's corrective action was sufficient to address the deficiency.

Comment: One commenter stated that the requirements relating to JCAHO disclosure of survey reports and related information should be identical to the disclosure requirements we placed upon our recognition of the CHAP HHA accreditation program.

Response: We agree. We have revised the disclosure requirements at the beginning of this notice to require JCAHO to release its survey reports to us routinely and to the public upon request. This disclosure requirement is identical to that included in our May 29, 1992 final notice granting deemed status to HHAs accredited by CHAP (57 FR 22773). We also clarify that the information subject to disclosure includes accreditation findings, supporting documentation, the official accreditation reports of JCAHO surveyors, and other related information. Although this clarification

was not included in the notice recognizing CHAP accreditation, we also reserve the right to require this information from CHAP under the authority of section 1865(a) of the Act, which requires a "deemed" provider to authorize the recognized accrediting body to release to us a copy of the most recent accreditation survey as well as "any other information directly related to the survey as the Secretary may require."

Comment: One commenter stated that we lack the statutory authority to release survey information to the public. Another commenter stated that JCAHO should not be required to routinely release survey reports to us.

Response: We do not agree with either comment. Section 1865(a) of the Act requires accreditation organizations to release accreditation surveys and related information to the Secretary. This same section specifically allows the Secretary to publicly disclose this information if it relates to the accreditation of an HHA by a recognized accreditation organization. As discussed in the previous comment, we have revised the proposed stipulation to conform it to our recognition of CHAP. We are not exceeding our statutory authority in our attempt to streamline the disclosure process by requiring JCAHO to release accreditation survey reports and related information directly to the public upon request.

Comment: One commenter disagreed with our requirement that JCAHO report to either the Office of Inspector General (for Medicare) or to the State agency responsible for investigating fraud and abuse (for Medicaid), or to both, complaints received from persons working in the accredited HHA or any substantial complaints from others, substantial or identified, concerning potential fraud and abuse violations. The commenter believed that this requirement creates an opportunity for false and malicious complaints that will damage an HHA's reputation.

Response: We have chosen to retain this requirement. As we explained in the proposed notice, we believe that this requirement is necessary to ensure that the fraud and abuse reporting which presently occurs as a result of the State survey continues to occur. Although we understand this requirement could present an opportunity for a disgruntled employee or unethical competitor to maliciously damage the reputation of an innocent HHA, we believe that this remote possibility is outweighed by the need to maintain government oversight of Medicare and Medicaid program integrity. This requirement will ensure that government agencies no longer conducting regular surveys of accredited HHAs (and therefore no longer in routine contact with the HHAs and their staff) will continue to be informed of possible program fraud and abuse. Also, we believe that this requirement is important because it will assure those individuals with legitimate complaints that those complaints will be considered by State and Federal authorities, in addition to the private accreditation organization.

Comment: One commenter asked for a description of how JCAHO addresses complaints about its accredited HHAs.

Response: JCAHO responds to all complaints about accredited HHAs. The complaint investigation may include an unannounced survey of the HHA to determine compliance with relevant JCAHO standards. JCAHO has agreed to share each complaint and any resultant investigation and resolution with us. Also, as discussed above, this notice requires that JCAHO must report to either the Department's Office of Inspector General or the State agency responsible for investigating fraud and abuse for Medicaid, or to both, complaints received from persons working in an accredited HHA or any substantial complaints from others, anonymous or identified, concerning potential fraud and abuse violations, and any other indication of Medicare or Medicaid program abuse encountered by JCAHO.

Comment: One commenter stated that the proposed notice effectively precluded the use of JCAHO surveyors as witnesses in any enforcement actions involving intermediate sanctions.

Response: We disagree. We intended that the proposed notice require that JCAHO surveyors must be made available to serve as witnesses if adverse action is taken by HCFA after JCAHO accreditation is withdrawn. We believe that the commenter may have misinterpreted this requirement. The purpose of this requirement is to ensure the availability of JCAHO surveyors as witnesses even though accreditation has been withdrawn and JCAHO has severed its relationship with the HHA. We believe that this is necessary to prevent the surveyors from refusing to act as witnesses because the HHA no longer is accredited by JCAHO. This requirement is not intended to preclude the use of JCAHO surveyors as witnesses in all other circumstances, but merely to require their availability in a circumstance that required clarification. We also expect JCAHO surveyors to be available to serve as witnesses in cases where JCAHO has not withdrawn accreditation but intermediate sanctions are being applied.

Comment: One commenter asked for clarification of whether the JCAHO accreditation report parallels the HCFA Statement of Deficiencies and Plan of Correction form.

Response: All deficiencies identified during a State survey that are violations of the Medicare statute and regulations are cited and sent to the HHA in writing on the Statement of Deficiencies and Plan of Correction (Form HCFA–2567). The HHA is required to respond to the notice including an explanation of how and when it plans to correct the deficiencies.

After a JCAHO accreditation survey, the HHA is sent an accreditation report. This report is the primary instrument used to determine a survey outcome as it gives a detailed description of the accreditation decision. The accreditation report begins by describing whether the HHA has been awarded accreditation with or without Type I or Type II recommendations, conditional accreditation, or nonaccreditation. The accreditation report also delineates specific areas of noncompliance and includes the recommendations for action and any contingencies for accreditation which are monitored by JCAHO. Given the similar purposes of each document, we believe that the JCAHO survey report does parallel the HCFA–2567.

Comment: One commenter asked that we clarify the scoring process used by JCAHO to determine compliance.

Response: JCAHO surveyors assess an HHA's compliance with each accreditation standard through the use of the scoring guidelines contained in Volume II of the JCAHO "Accreditation Manual for Home Care". These guidelines are used to assign a score of 1 (substantial compliance) to 5 (noncompliance) to each standard. As described in the "Accreditation Manual," the scoring guidelines express parameters or common conditions that surveyors use to make judgments and assign scores to key items. The guidelines do not supersede or preempt surveyor judgment regarding an HHA's degree of compliance to a standard. They are intended to improve the consistency of the survey process by providing objective and uniform parameters of surveyor judgement. These guidelines express the intent of the standards and establish a basis for assigning scores on the survey report form that relate to the degree of compliance.

After the survey, JCAHO analysts aggregate the HHA's survey scores into an accreditation decision grid. The hundreds of scores assigned to individual standards and required

characteristics by the surveyor are aggregated to the 37 performance elements that appear on the grid. Each of these performance areas have been identified by JCAHO as important to the delivery of quality care, and the scores for each performance area are an aggregate of the scores for each standard related to the performance element. When completed, the grid scores reflect an HHA's overall compliance with the accreditation standards. The scores for each performance element are then assigned a weight to reflect the element's importance in the decision process, and an accreditation decision is made.

Comment: One commenter asked for a clarification of what JCAHO considers to be a Type I recommendation.

Response: The JCAHO's "Guide to Home Care Survey and Accreditation" describes a Type I recommendation as follows:

> Type I recommendations are recommendations or groups of recommendations that should be given the highest priority in the organization's plans for improvement if it wishes to retain its accreditation. The progress of the organization in making these improvements will be monitored by the Joint Commission during the accreditation cycle through focused surveys or written progress reports at times designated by the Joint Commission. Failure to make these improvements by the designated time could lead to loss of accreditation.

Comment: One commenter asked how long an HHA is given to review and dispute a JCAHO decision of conditional accreditation or nonaccreditation. Another commenter requested that JCAHO eliminate this procedure.

Response: Before a recommendation for conditional accreditation or nonaccreditation is made, the HHA is given the opportunity to review the findings of the survey and to submit documentation to establish that it was, in fact, in compliance with the standards at the time of the survey. Progress since the survey is not considered. As an alternative, if the HHA wishes, JCAHO will resurvey those areas that contributed to the development of the recommendation. Materials or a request for a validation survey must be submitted within 20 calendar days from its receipt of the report.

It is important to note that these procedures do not apply when a surveyor identifies any condition that is a threat to public or patient safety. In such cases, the president of JCAHO, or a designee, promptly recommends to the Accreditation Committee that accreditation be denied or terminated. This action is reported by telephone and in writing to the organization's chief executive officer and in writing to the authorities having jurisdiction. Because this policy prevents an HHA from continuing a threat to public or patient safety throughout a prolonged appeal process, we do not believe it is necessary to require JCAHO to revise this process.

Comment: One commenter stated that JCAHO should adopt the same sampling techniques for home visits and record review that are used by the States.

Response: JCAHO has agreed to use the sampling methodology for home visits and record review that is outlined in the State Operations Manual.

Comment: Several commenters stated that JCAHO should perform annual, unannounced surveys at the same frequency required of the State survey agencies.

Response: JCAHO has agreed to perform annual, unannounced surveys of those HHAs that seek deemed status at the same frequency that is required of the State survey agencies.

Comment: One commenter stated that JCAHO's policy of sending pre-survey questionnaires to accredited HHAs endangers its ability to conduct unannounced surveys.

Response: We understand the commenter's concern, but believe JCAHO's application of this policy does not materially endanger the unannounced nature of its surveys. Approximately 6 months before a survey, JCAHO will send an accredited HHA a questionnaire to determine the size of the agency, the services it provides, its location, and other basic information. Because the questionnaire is sent so far in advance of the survey, we do not believe that it compromises the conduct of an unannounced survey.

Comment: One commenter requested that the notice be revised to provide a more extensive description of an HHA's appeal rights should we seek to terminate its Medicare provider agreement.

Response: The purpose of this notice is to deem HHAs accredited by JCAHO as meeting the Medicare HHA conditions of participation, not to provide an indepth description of provider termination procedures. Although the February 3, 1992 proposed notice provided a brief description of Medicare survey and certification, and approval and termination procedures, it was not intended to offer an extensive description of each process. As this final notice does not contain a background description of these Medicare procedures, and such a description is not directly related to the purpose of the notice, we have chosen not to add a comprehensive description of an HHA's termination appeal rights. A more detailed description can be found, however, in Federal Regulations at 42 CFR part 498.

Comment: One commenter suggested that JCAHO surveyors should determine whether an HHA refers patients to the appropriate rehabilitation professionals as part of the accreditation survey.

Response: As discussed above, JCAHO surveyors are required to have extensive experience in the provision of home health care. These surveyors are trained to survey for all accreditation standards and to apply their own experience to determine whether the standards are actually met. JCAHO accreditation standard HH.1 requires:

> The number, qualifications, and current competence of the individual(s) providing each service are appropriate to the patient/client needs, the skills necessary for the level of care required, and to applicable law and regulation.

In addition, the scoring guidelines for this standard instruct the surveyor to verify that "The training and experience of all individuals providing service/care are appropriate to the assigned responsibilities, treatment provided, and the patient population being served."

We believe the application of this standard by qualified surveyors provides reasonable assurance that an accredited HHA will refer its patients to the appropriate rehabilitation professionals.

Comment: Several commenters expressed concern about JCAHO's timeframes for notification of survey results and the required submission of plans of correction as well as the conduct of a follow-up survey to monitor compliance.

Response: As we described in the proposed notice, we believe that the JCAHO process for following up deficiencies provides reasonable assurance that a JCAHO-accredited HHA meets the Medicare conditions of participation. However, after review of the public comments, we concluded that the JCAHO process should be revised to provide earlier notification of an HHA's noncompliance so that the HHA may more quickly act to correct deficiencies. In response to our concerns, the JCAHO surveyor will now complete a JCAHO report entitled, "Medicare Preliminary Decision Report" at the conclusion of the JCAHO survey. This report will detail the surveyor's preliminary findings with regard to the HHA's compliance with

Medicare and JCAHO standards and conditions. A copy of the report will be left with the HHA administrator at the end of the JCAHO surveyor's exit conference. We believe that this action provides reasonable assurance that deficiencies related to applicable Medicare conditions of participation will be identified to the HHA immediately so that the HHA can take prompt corrective action. The final report issued by JCAHO to the HHA regarding the Medicare certification process will be sent no later than 30 days following the last day of the survey. Monitoring activities, such as a written progress report or focus survey, will be reviewed and conducted, respectively, 48 to 60 days following the last day of the survey. Notification of the results of the survey and any required follow-up will be communicated by JCAHO to HCFA within the above timeframe. Finally, as we explain above, it is important to emphasize that the normal JCAHO procedures do not apply when a surveyor identifies any condition that poses a threat to patient or public safety. In such cases, JCAHO will take immediate action to address the condition.

As a result of these revisions to the JCAHO process, we have not changed our determination that accreditation by JCAHO provides reasonable assurance that an HHA meets the Medicare conditions of participation.

Comment: Several commenters expressed concern that JCAHO's required HHA personnel qualifications are less stringent than those contained in the Medicare conditions of participation. One commenter stated that the requirement that personnel "meet licensure requirements" described in the proposed notice is not the same as specifically requiring the individual to be licensed.

Response: As we described in detail in the February 3, 1992 proposed notice, JCAHO personnel qualifications for several disciplines are less specific than those contained in the Medicare HHA conditions of participation. However, as we also explained in the proposed notice, we believe that the application of JCAHO's standards provides reasonable assurance that Medicare conditions are met. As we described above, our recognition of JCAHO accreditation is based on our analysis of the entire JCAHO program, not on a word-by-word comparison of JCAHO and Medicare requirements. We believe that the JCAHO personnel requirements meet the qualification and proficiency standards sought by the Medicare conditions. As we also described in the proposed notice, JCAHO has agreed to revise its standards to specifically require physical therapists, physical therapy assistants, social workers, and social work assistants to meet the qualifications established in the Medicare HHA conditions of participation. Finally, JCAHO standard HH.1.1 states:

> Each individual who provides home health services has a current license, registration, or certification, in accordance with applicable law and regulation.

Comment: One commenter stated that JCAHO does not prohibit surveyors from conducting surveys of HHAs in which they have a financial or other interest.

Response: We disagree. JCAHO has an extensive written conflict-of-interest policy. Included in this policy is the requirement that an employee or consultant surveyor "survey no organization on behalf of the Joint Commission to which he or she has provided any consulting or related services at any time during the preceding three (3) years." We have determined that JCAHO's conflict-of-interest policy precludes an individual from conducting a JCAHO survey of an HHA in which he or she has a financial, managerial, or other interest and provides reasonable assurance that the Medicare surveyor conflict-of-interest policy is met.

Comment: One commenter stated that the JCAHO standards should specifically require a supervisory visit to patients receiving home health aide services at least once every 60 days.

Response: The following standards are found in the "Personal Care and Support Services" chapter of the JCAHO "Accreditation Manual for Home Care":

> SS.4 The personal care and support services provided are based on the initial and ongoing assessments of patient/client needs and are conducted by an appropriately qualified individual in the patient's/client's home.
>
> SS.4.4.1 When personal care services are provided, the assessment occurs at least every two months.
>
> SS.4.4.3 When personal care is provided to a patient/client with an unstable medical condition or who is also receiving (additional) home health services, assessment occurs at least every 14 days, or more frequently if indicated by the patient's/client's needs.

In addition, the scoring guidelines for standard SS.4 require the assessment visits to be "conducted by a qualified individual who meets educational and/or experience requirements in accordance with applicable laws, regulations, and the home care organization's policy" to be considered in full compliance with the standard.

Although these standards do not incorporate the Medicare condition of participation terms "home health aide services" and "supervision", we have determined that the application of these standards provides reasonable assurance that the Medicare home health aide supervision requirements are met.

Comment: One commenter stated that the JCAHO standards do not require a home health aide to successfully complete a competency determination if there has been a continuous period of 24 consecutive months in which the individual has not furnished home health aide services.

Response: The requirements for home health aide training and competency determination are partially contained in the following JCAHO standards:

> SS.2 Personal care and service staff complete appropriate training and orientation before being assigned to provide care or services for patients/clients.
>
> SS.2.1 Staff demonstrate knowledge of the subjects taught and proficiency in skills appropriate to their assigned responsibilities.
>
> SS.2.5 The training complies with applicable law and regulation.

To ascertain compliance with standard SS.2.5, the JCAHO surveyor is instructed to determine whether "training for personal care and support services staff complies with any applicable existing state and/or federal law and regulation." Although the standards do not specifically require retesting individuals who have not provided services for 2 years, they appropriately require Medicare-participating HHAs seeking deemed status to comply with all Medicare home health aide training and competency evaluation requirements. We believe that this requirement, in addition to JCAHO's application of standards SS.2, SS.2.1, and the other more specific training and testing accreditation standards in the accreditation manual, provide reasonable assurance that the Medicare standards governing home health aide training and competency evaluation are met.

Comment: One commenter stated that JCAHO standards do not require an HHA to inform the patient in advance of any changes in treatment.

Response: We disagree. We believe that the following JCAHO accreditation standards provide reasonable assurance that an HHA patient will be informed in advance of the care to be furnished and of any changes in the care to be furnished:

> PR.1 The patient/client (including any individual appropriately authorized to represent the patient/client) has the right to

make informed decisions regarding his/her care.

PR.1.1 When possible, the patient/client participates in decisions regarding his/her care, including the development and revision of the plan of care or service.

PR.1.2 The patient/client receives the information necessary to make decisions regarding his/her care.

Comment: One commenter stated that the JCAHO standards do not require the HHA to notify the patient's physician of ineffective drug treatment or drug interaction.

Response: We disagree. Although the JCAHO standards do not specifically require the HHA to inform the patient's physician of difficulties with medication, standard HH.7 does require that "home health staff contact the patient's/client's physician whenever warranted by the patient's/client's condition." We believe that this general requirement provides reasonable assurance that a JCAHO-accredited HHA will inform a patient's physician upon detecting ineffective drug treatment or drug interaction, or in any other situation that warrants the physician's attention.

Comment: One commenter stated that JCAHO standards do not require consumer participation in the HHA's annual program evaluation.

Response: Although JCAHO accreditation standard GB.7 does require the HHA's governing body to conduct an annual evaluation of the HHA's performance, it is true that the standards do not specifically require consumer participation in the evaluation. However, as we stated before, our approval of the JCAHO accreditation program is not based on JCAHO maintaining accreditation standards that are identical to the Medicare conditions of participation. Although JCAHO's standards are not completely equivalent to the Medicare requirement in this instance, we have determined, after examining the JCAHO accreditation program on the whole, that JCAHO accreditation does provide reasonable assurance that an HHA meets the requirements for participation in Medicare. Also, it is important to point out that JCAHO's agreement to release survey reports and related information to the public ensures a public review of accredited HHAs, thus satisfying the ultimate intent of the condition of participation requiring consumer participation in the annual program review.

Comment: One commenter stated that the JCAHO standards do not prohibit discrimination on the basis of age.

Response: JCAHO standard MA.6.1.1 requires that "staff whose qualifications are commensurate with anticipated job responsibilities are employed without regard to sex, race, age, creed, handicap, or national origin." We believe that this standard appropriately prohibits discrimination on the basis of age.

Regulatory Impact Statement

Executive Order 12291 (E.O. 12291) requires us to prepare and publish a regulatory impact analysis for any final notice that meets one of the E.O. 12291 criteria for a "major rule"; that is, that will likely result in—

- An annual effect on the economy of $100 million or more;
- A major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or
- Significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

In this final notice, we recognize the JCAHO accreditation process. HHAs accredited by JCAHO ordinarily will not be subject to routine inspection by the State survey agencies to determine their compliance with Federal requirements. Federal expenditures to ensure compliance with requirements will continue either in payments to States to perform compliance surveys, or reimbursements to home care organizations for the reasonable and allocable costs of JCAHO accreditation. We believe that there will be no significant costs or savings realized as a result of this notice; therefore, a regulatory impact analysis under Executive Order 12291 is not required.

Collection of Information Requirements

This rule contains no information collection requirements. Consequently, this rule need not be reviewed by the Office of Management and Budget under the authority of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.).

Authority: Sec. 1865(a) of the Social Security Act (42 U.S.C. 1395bb(a)).

(Catalog of Federal Domestic Assistance Program No. 93.773, Medicare—Hospital Insurance; and Program No. 93.778, Medical Assistance Program)

Dated: March 11, 1993.

William Toby, Jr.,

Acting Deputy Administrator, Health Care Financing Administration.

Approved: April 22, 1993.

Donna E. Shalala,

Secretary.

[FR Doc. 93–15293 Filed 6–29–93; 8:45 am]

BILLING CODE 4120-01-P

[OCC–034–N]

Medicare Program; Revised Designation of States In Which Medicare SELECT Insurance Policies May Be Issued

AGENCY: Health Care Financing Administration (HCFA), HHS.

ACTION: Notice.

SUMMARY: Section 4358(c) of the Omnibus Budget Reconciliation Act of 1990, provides for the designation of 15 States in which Medicare supplemental insurance policies (commonly referred to as "Medigap" policies) may be approved for issuance as Medicare SELECT policies during the period January 1, 1992 through December 31, 1994. This notice announces two revisions in the list of States designated under this authority.

EFFECTIVE DATES: The revised designations in this notice are effective on June 30, 1993 and expire on December 31, 1994.

FOR FURTHER INFORMATION CONTACT: Melvin Silverman, (202) 619–0834.

SUPPLEMENTARY INFORMATION:

I. Background

On September 20, 1991, the Secretary announced in the **Federal Register** (56 FR 47763), the conditional designation of 15 States in which Medicare SELECT policies may be approved for issuance during the period January 1, 1992, through December 31, 1994. As the notice explained, Medicare SELECT policies are Medicare supplemental insurance policies (commonly referred to as "Medigap" policies) that restrict benefits to items and services furnished through a network of providers, or that pay reduced benefits for items and services received from non-network providers.

Under Medicare SELECT, issuers enter into agreements with providers to assure appropriate utilization and deliver cost-efficient and high-quality care as a way to improve the value of Medicare supplemental insurance. In the designated States, an issuer of a Medicare SELECT policy must meet the requirements of section 1882 of the

Social Security Act (the Act) and the policy must be approved by the State.

Section 4358 of Public Law 101–508 (enacted November 5, 1990), the Omnibus Budget Reconciliation Act of 1990 (OBRA '90) authorized the issuance of Medicare SELECT policies during the 3-year period beginning with 1992 in 15 States designated by the Secretary. The Secretary must conduct an evaluation of the section 4358 amendments and submit a report to Congress by January 1, 1995.

To retain their designated status, the States were required to incorporate into their regulatory programs standards that are at least as stringent as those contained in the Model Regulation adopted by the National Association of Insurance Commissioners (NAIC) on July 30, 1991, including the standards described in section 10 of the Model Regulation, which specifically addresses Medicare SELECT policies. The NAIC Model Regulation was published in the **Federal Register** on August 21, 1992 (57 FR 37980).

II. Solicitation of States

On February 6, 1991, the NAIC informed all State Insurance Commissioners of the new Medicare SELECT program and advised interested States to contact us. On April 25, 1991, the Secretary announced his intention to designate the 15 Medicare SELECT States and invited States to notify us of their interest in participating.

As a result, 29 State insurance departments notified us of their interest in being considered for participation in Medicare SELECT. Based on the information available to us, we applied the factors listed in section III below, to each of the 29 States that notified us of their interest in being designated under section 4358 of OBRA '90. As a minimum requirement, we determined that all Medicare SELECT States must have an approved Medigap regulatory program that meets the OBRA '90 requirements.

III. Criteria for Designation

Designation of the 15 States was based on the extent to which the following factors were present in the States:

- An effective State Medigap regulatory program as demonstrated by approval under the Medicare Catastrophic Coverage Act (Pub. L. 100–360) and the Medicare Catastrophic Coverage Repeal Act (Pub. L. 101–234). If a State was conditionally approved, we considered the nature of the problem and evidence that the problem will be corrected.
- Availability of pre-OBRA '90 Medigap policies in the State that incorporate a network, such as existing indemnity and health maintenance organization products, and the levels of enrollment in the policies.
- Interest of insurers in offering Medicare SELECT in the State.
- Availability of beneficiary assistance/counseling programs, Medicare/Medicaid assistance programs, or special programs supported by the State.
- Absence of State legislation that would deter the operation of effective utilization review techniques by the Medicare SELECT insurer or otherwise restrict effective network arrangements.
- State interest and ability in regulating the products of Preferred Provided Organizations (PPOs) (for example, a State authorizing PPO legislation that includes provisions on access, information, and quality) or State interest in developing an effective PPO regulatory program.
- State commitment to coordinated care, such as a Governor's program for managed care or large Medicare and Medicaid health maintenance organization enrollment.
- Factors related to evaluation of the Medicare SELECT program, such as geographic dispersion of the States.

Under section 1882(a)(2) of the Act, no Medigap policies (including Medicare SELECT policies) may be issued after July 30, 1992, in States that do not have approved regulatory programs unless they are certified by the Secretary. Each of the designated Medicare SELECT States as published in the **Federal Register** on September 20, 1991 (56 FR 47763), received HCFA approval of their Medicare supplemental insurance regulatory programs. Oregon was granted an extension of the deadline until its legislature convenes.

In addition, in order to maintain their approved status, Medicare SELECT States must assure that the standards they have adopted continue to be enforced during the trial period.

IV. Alternate States

The notice published in the **Federal Register** on September 20, 1991 (56 FR 47763) noted that while more than 15 States may have been good candidates for Medicare SELECT, the Congress limited the Secretary's authority to designating only 15 States.

The notice also noted that if any of the 15 States did not establish an approvable program by July 30, 1992, or otherwise chose not to participate in Medicare SELECT, we would designate substitutes from the following list of alternate States, whose Medicare supplemental insurance regulatory programs we have approved:

Colorado, Delaware, Georgia, Illinois, Kansas, Massachusetts, Mississippi, Nevada, New Jersey, Pennsylvania, South Carolina, Virginia, West Virginia.

On December 16, 1991, the Secretary announced in a correction notice, published in the **Federal Register** (56 FR 65269), that the State of Louisiana, was added to the list of alternate States.

V. Withdrawal and Revised Designation of Medicare SELECT States

While the Secretary approved the regulatory programs for all 15 designated States, two of the States, Oregon and Michigan, have requested that their Medicare SELECT status be withdrawn. The Commissioners of Insurance for Oregon and Michigan have advised us that no Medicare supplemental insurers are interested in selling Medicare SELECT policies in their States, and that therefore, the States are willing to give up their designated status in order to permit other States to be designated.

Based on the criteria listed above in Section III, (except that we considered an effective Medigap regulatory program to be demonstrated by approval under OBRA '90) we have designated Illinois and Massachusetts as Medicare SELECT States to restore the number of States to 15. Illinois and Massachusetts, respectively, have shown State commitment to coordinated care programs, including large Medicare and Medicaid enrollments in HMOs; have identified a number of issuers potentially interested in offering a Medicare SELECT program; and have exemplary State beneficiary assistance and counselling programs available.

Replacing Michigan and Oregon with two other States may help assure that data on Medicare SELECT insurance is available from a full complement of 15 States for purposes of the evaluation that is to be conducted under section 4358(d) of OBRA '90.

For these reasons, the designation under section 4358(c) of OBRA '90 of 15 States in which Medicare SELECT policies may be approved is revised to include the following:

Alabama, Arizona, California, Florida, Illinois, Indiana, Kentucky, Massachusetts, Minnesota, Missouri, North Dakota, Ohio, Texas, Washington, Wisconsin.

Illinois and Massachusetts, the newly designated States, may begin to approve Medicare SELECT policies as soon as the standards specified in section 10 of the NAIC Model Regulation (57 FR 37993–37994) are incorporated into their State regulatory programs and

approved by us. Michigan and Oregon, the States whose designation is being withdrawn, may not permit the issuance of Medicare supplemental policies that restrict benefits to items and services furnished by a particular network of providers, and must amend their regulatory programs accordingly.

(Catalog of Federal Domestic Assistance Program No. 93.778, Medical Assistance Program; No. 93.773 Medicare—Hospital Insurance Program; No. 93.774, Medicare—Supplementary Medical Insurance Program)

Dated: March 1, 1993.

William Toby,

Acting Deputy Administrator, Health Care Financing Administration.

Approved: April 5, 1993.

Donna E. Shalala,

Secretary.

[FR Doc. 93–15297 Filed 6–29–93; 8:45 am]

BILLING CODE 4120–01–P

Health Resources and Services Administration

Final Funding Priority and Special Consideration for Grants for Establishment of Departments of Family Medicine

The Health Resources and Services Administration (HRSA) announces the final funding priority and special consideration for fiscal year (FY) 1993 Grants for Establishment of Departments of Family Medicine authorized under the authority of section 747(b), (previously section 780) of the Public Health Service (PHS) Act, title VII, as amended by the Health Professions Education Extension Amendments of 1992, Title I, Public Law 102–408, dated October 13, 1992.

Purpose

Section 747(b) of the PHS Act authorizes support to schools of medicine and osteopathic medicine to meet the costs of projects to establish, maintain, or improve family medicine academic administrative units (which may be departments, divisions, or other units) to provide clinical instruction in family medicine. Funds awarded will be used to: (1) Plan and develop model educational predoctoral, faculty development and graduate medical education programs in family medicine which will meet the requirements of section 747(a) by the end of the project period of section 747(b) support; and (2) support academic and clinical activities relevant to the field of family medicine.

The program may also assist schools to strengthen the administrative base and structure that is responsible for the planning, direction, organization, coordination, and evaluation of all undergraduate and graduate family medicine activities. Funds are to complement rather than duplicate programmatic activities for actual operation of family medicine training programs under section 747(a).

Eligibility

To be eligible to receive support for this grant program, the applicant must be a public, or nonprofit private, accredited school of medicine or osteopathic medicine.

Statutory Funding Preferences

Public Law 102–408 has amended section 747(b), (previously section 780) to include the following two statutory funding preferences which are new for this program.

1. Establishment and Expansion

Section 747(b)(2) provides that preference shall be given to any qualified applicant that agrees to expend the award for one of the following purposes:

(a) Establishing an academic administrative unit (defined as a department, division, or other unit), for programs in family medicine; or

(b) Substantially expanding the programs of such a unit.

A program will meet the definition of "substantial expansion" if it has developed an acceptable plan for a 50 percent increase in a sufficient number of the following areas to qualify for 70 points. The expansion must be completed within 3 years.

	Points
(1) Required 3rd Year Clerkship	30
(2) Required Preceptorship	20
(3) Family Medicine Research	10
(4) Expansion of Faculty	10
(5) Faculty Development Program for Community Based Faculty	10
(6) Family Medicine Faculty Represented on Medical School Standing Committees of Admissions or Curriculum	10
(7) Family Medicine Faculty Represented on Dean's Executive Committee or Tenure Committee	10

2. Graduates Serving Residents of Medically Underserved Communities

Section 791(a) of the Public Health Service Act, as amended by the Health Professions Education Extension Amendments of 1992, provides for the following funding preference which is applicable to programs under section 747:

Statutory preference will be given to qualified applicants that: (1) Have a high rate for placing graduates in practice settings having the principal focus of serving residents of medically underserved communities; or (2) during the 2-year period preceding the fiscal year for which such an award is sought, have achieved a significant increase in the rate of placing graduates in such settings.

This preference will only be applied to applications that rank above the 20th percentile of applications that have been recommended for approval by peer review groups under section 798(a) of the PHS Act, as amended.

Additional information concerning the implementation of this preference has been published in the **Federal Register** at 58 FR 9570, dated February 22, 1993. The burden for collection of information to request this preference is under review by the Office of Management and Budget in accordance with the Paperwork Reduction Act.

Information Requirement Provision

Under section 791(b) of the Act, the Secretary may make an award under the Grants for the Establishment of Departments of Family Medicine program only if the applicant for the award submits to the Secretary information regarding the programs of the applicant. The provision for these requirements will be implemented in FY 94. The burden for collection of this information is under review by the Office of Management and Budget in accordance with the Paperwork Reduction Act.

Established Nonstatutory Funding Priority for FY 1993

The following funding priority, which was established in the **Federal Register** in FY 1992 after public comment (57 FR 11326) dated April 2, 1992, is being continued in FY 1993:

A funding priority will be given to applicants that document that 20 percent or more of the previous medical school graduating class, or of the combined last three graduating classes, entered accredited family medicine residency training programs or internship training programs in osteopathic medicine which emphasize family medicine and are approved by the American Osteopathic Association.

Final Funding Priority and Special Consideration for FY 1993

A funding priority and special consideration were proposed for FY 1993 in the **Federal Register** on April 19, 1993 at 58 FR 21175 for public comments. A comment was received from one respondent during the 30-day comment period. The respondent expressed concern over the increased

administrative burden that nonstatutory funding factors impose on applying institutions and that the costs of applying for and overseeing grants were more than the potential rewards available from this grant program. The nonstatutory funding priorities established for this program will encourage applicants to meet the standard which is established as a reasonable and challenging level and are consistent with the HRSA strategy to increase the number of health professionals from minority and other at-risk populations. No plans are contemplated to remove any of the nonstatutory funding factors in FY 1993. Following additional data collection, it is likely that the implementation methodology will be revised before implementation in FY 1994.

Therefore, as proposed the funding priority and special consideration will be retained as follows:

In making awards for FY 1993, a funding priority will be given to applicants that demonstrate either substantial progress over the last 3 years or a significant experience of 10 or more years in influencing graduates from those minority or low-income populations identified as at-risk of poor health outcomes to enter family medicine residency training.

Special consideration will be given to the extent to which applicants enroll and graduate students from underserved areas.

It is not required that applicants request consideration for a funding factor. Applications which do not request consideration for funding factors will be reviewed and given full consideration for funding.

Additional Information

Questions regarding programmatic information should be directed to: Ms. Shelby Biedenkapp, Program Specialist, Resources Development Section, PCMEB, Division of Medicine, Bureau of Health Professions, Health Resources and Services Administration, Parklawn Building, room 4C–04, 5600 Fishers Lane, Rockville, Maryland 20857, Telephone: (301) 443–3614, Fax: (301) 443–8890.

This program is listed at 93.984 in the Catalog of Federal Domestic Assistance. It is not subject to the provisions of Executive Order 12372, Intergovernmental Review of Federal Programs (as implemented through 45 CFR part 100).

This program is not subject to the Public Health System Reporting Requirements.

Dated: June 24, 1993.

William A. Robinson,

Acting Administrator.

[FR Doc. 93–15402 Filed 6–29–93; 8:45 am]

BILLING CODE 4160–15–P–M

Final Funding Priorities for Nursing Special Project Grants for Fiscal Year 1993

The Health Resources and Services Administration (HRSA) announces the final funding priorities for fiscal year (FY) 1993 Grants for Nursing Special Projects under the authority of section 820, title VIII of the Public Health Service (PHS) Act, as amended by the Nurse Education and Practice Improvement Amendments of 1992, title II of the Health Professions Education Extension Amendments of 1992, Public Law 102–408, dated October 13, 1992.

This program was announced in the **Federal Register** at 58 FR 19270 on April 13, 1993. The announcement included proposed funding priorities. A comment period of 30 days was established to allow public comment concerning the proposed funding priorities. Five comments were received. This notice includes a discussion of the comments and the final funding priorities for Nursing Special Project Grants for Fiscal Year 1993. Comments on program aspects that were not specifically proposed for public comment are not addressed in this notice.

Purpose

Section 820(a) of the PHS Act authorizes the Secretary to make grants for the purpose of assisting schools in increasing the number of students enrolled.

Section 820(b) of the PHS Act authorizes the Secretary to make grants for the establishment or expansion of nursing practice arrangements in noninstitutional settings to demonstrate methods to improve access to primary health care in medically underserved communities.

Section 820(c) of the PHS Act authorizes the Secretary to make grants for the purpose of providing continuing education for nurses serving in medically underserved communities.

Section 820(d) of the PHS Act authorizes the Secretary to make grants for the purpose of providing fellowships to individuals who are employed by nursing facilities or home health agencies as nursing paraprofessionals.

Eligibility

Eligible applicants for projects under section 820(a) include public and nonprofit private schools of nursing with programs of education in professional nursing. To receive support under 820(a) the school must agree to make available non-Federal contributions in an amount that is at least 10 percent of the project costs for the first fiscal year, at least 25 percent of the project costs for the second fiscal year, at least 50 percent of the project costs for the third fiscal year, and at least 75 percent of the project costs for the fourth or fifth fiscal years.

Eligible applicants for projects under section 820(b) include public and nonprofit private schools of nursing. To receive support under 820(b) the program proposed must be operated and staffed by the faculty and students of the school and must be designed to provide at least 25 percent of the students of the school with a structured clinical experience in primary health care.

Eligible applicants for projects under section 820(c) include public and nonprofit private entities.

Eligible applicants for projects under section 820(d) include public and nonprofit private entities that operate accredited programs of education in professional nursing, or State-board approved programs of practical or vocational nursing. To receive support under 820(d), the applicant must agree that, in providing fellowships, preference will be given to eligible individuals who (A) are economically disadvantaged individuals, particularly such individuals who are members of a minority group that is underrepresented among registered nurses; or (B) are employed by a nursing facility that will assist in paying the costs or expenses. The applicant must also agree that the fellowships provided will pay all or part of the costs of (A) the tuition, books, and fees of the program of nursing with respect to which the fellowship is provided; and (B) reasonable living expenses of the individual during the period for which the fellowship is provided.

Other Considerations

The following funding factors may be applied in determining funding of approved applications.

A funding preference is defined as the funding of a specific category or group of approved applications ahead of other categories or groups of approved applications.

A funding priority is defined as the favorable adjustment of aggregate review scores of individual approved applications when applications meet specified criteria.

It is not required that applicants request consideration for a funding

factor. Applications which do not request consideration for funding factors will be reviewed and given full consideration for funding.

Statutory Funding Preferences

In making awards of grants under section 820(a), preference will be given to any qualified school that provides students of the school with clinical training in the provision of primary health care in publicly-funded (A) urban or rural outpatient facilities, home health agencies, or public health agencies; or (B) rural hospitals.

In making awards of grants under section 820(d), preference will be given to any qualified applicant operating an accredited program of education in professional nursing that provides for the rapid transition to status as a professional nurse from status as a nursing paraprofessional.

Funding Priority for 820(a)

One comment objected to the priorities for generic baccalaureate programs. These priorities are designed to facilitate the education of nurses prepared to work in primary care settings and to increase the number of primary care providers. For this reason, these priorities remain as proposed. It is important to note that these priorities apply only to applications for grants under section 820(a).

Final Funding Priority for 820(a)

A priority will be given to schools that offer generic baccalaureate programs. A priority will also be given to schools that offer both generic baccalaureate nursing programs and RN completion programs. These priorities apply to applications for grants under section 820(a).

Funding Priority for 820(a), (b), and (d)

Three comments objected to the priority for programs which enroll and graduate trainees from those minority of low-income populations identified as at-risk of poor health outcomes. The objection related to the need for an established record, particularly as it relates to programs such as Ladders in Nursing Careers (LINC, sponsored by an acute care hospital in New York), which have not had time to establish such records. Since the record must be established by the applicant school rather than by a program such as LINC, this priority remains as proposed.

Final Funding Priority for 820(a), (b), and (d)

A funding priority will be given to programs which demonstrate either substantial progress over the last 3 years or a significant experience of 10 or more years in enrolling and graduating trainees from those minority or low-income populations identified as at-risk of poor health outcomes. This priority is consistent with a HRSA strategy to increase the number of health professionals from minority and other at risk populations, to assure equal access to health professions education for all population groups, ultimately, to provide a greater volume of health care in underserved areas. This priority applies to applications for grants under sections 820(a), 820(b), and 820(d).

Funding Priority for 820(c)

One comment pointed out that the term "medically underserved areas" used in this priority requires definition. In response to this comment, the term used in the final priority is "medically underserved community" which is defined in the **Federal Register** at 58 FR 9570, dated February 22, 1993.

Final Funding Priority for 820(c)

A funding priority will be given to applications for continuing education programs for nurses from medically underserved communities to increase their knowledge and skills in care of persons who are HIV positive or who have AIDS. This priority applies to applications for grants under section 820(c).

Additional Information

If additional programmatic information is needed, please contact:

Mary S. Hill, Chief, Nursing Education and Practice Resources Branch, Division of Nursing, Bureau of Health Professions, Health Resources and Services Administration, Parklawn Building, room 9–36, 5600 Fishers Lane, Rockville, Maryland 20857, Telephone: (301) 443–6193 FAX: (301) 443–8586.

This program, Nursing Special Project Grants, is listed at 93.359 in the Catalog of Federal Domestic Assistance. It is not subject to the provisions of Executive Order 12372, Intergovernmental Review of Federal Programs (as implemented through 45 CFR part 100). This program is not subject to the Public Health System Reporting Requirements.

Dated: June 24, 1993.

William A. Robinson,

Acting Administrator.

[FR Doc. 93–15403 Filed 6–29–93; 8:45 am]

BILLING CODE 4160–15–P

Indian Health Service

Indian Health Service Research Program; Grants Application Announcement

AGENCY: Indian Health Service, HHS.

ACTION: Notice of final funding emphases for competitive grant applications for the Indian Health Service (IHS) Research Program.

SUMMARY: The IHS announces the final funding emphases for fiscal year (FY) 1994 IHS Research Program authorized by section 208 of the Indian Health Care Improvement Act, as amended, 25 U.S.C. 1621g. There will be only one funding cycle during FY 1994. Grants shall be administered in accordance with applicable Office of Management and Budget (OMB) Circulars and HHS policies. This program is described at 93.905 in the Catalog of Federal Domestic Assistance. Executive Order 12372 requiring intergovernmental review is not applicable to this program

General Program Goals

1. To support practice and community-based research projects likely to improve the health of American Indians and Alaska Natives (AI/AN) served by the IHS.

2. To develop research skills among IHS and tribal health professionals. The applicant, as the direct and primary recipient of PHS funds, must perform a substantive role in carrying out project activities and not merely serve as a conduit for an award to another party, or to provide funds to another party.

3. These grants will be awarded and administered in accordance with the published program announcement in the **Federal Register** of May 3, 1993 (58 FR 26334) and the Indian Health Care Improvement Act, as amended, 25 U.S.C. 1621g.

Research Funding Emphases

Proposed funding emphases were published in the **Federal Register** of May 3, 1993 (58 FR 26334) for public comment. No comments were received during the 30-day comment period. Therefore, as proposed the following funding emphases will be retained as listed below.

1. Studies of documented high importance in the community in which the research is to be done.

2. Studies with high relevance for the AI/AN populations. (The series "The Research Agenda for Indian Health" in the IHS Primary Care Provider, lists many relevant research subjects. Reprints are available from the IHS Research Program and the Area Research Offices.)

3. For studies that involve problems that are both social and medical (e.g., dysfunctional families), research about factors that enable the community or individuals to overcome the problem.

4. Competing continuations of previously-funded research projects.

Review Process

Applications meeting eligibility requirements that are complete and conform to the published program announcement in the Federal Register of May 3, 1993 (58 FR 26334) will be reviewed in accordance with the following process.

1. Review by Authorized Institutional Review Boards (IRB). All applications involving human subjects will be reviewed by the authorized Area or National IRBs in the IHS for compliance with requirements to protect human subjects contained in 45 CFR part 46, and as specified in the IHS Multiple Project Assurance (MPA). It is suggested but not required that the application be sent to the appropriate Area IRB(s) 1 (one) month before the deadline, for the IRB review of the proposal to permit making the changes before the final submission. The IRB will review only IRB issues, not purely technical methods. Any applications involving investigators from institutions with IRBs with MPAs and involving human subjects must also be reviewed by the IRBs of the respective institution(s). The researcher should contact non-IHS IRB(s) for their deadline requirements. No research project can be funded by IHS unless it has been approved by, and has met the conditions of, all applicable IRBs.

2. Review by the Indian Health Research Study Section (IHRSS) Applications meeting eligibility requirements that are complete, responsive, and conform to this program announcement will be reviewed for merit by the IHRSS appointed by the IHS to review these applications. The IHRSS review will be conducted in accordance with the IHS objective review procedures. The technical review process ensures selection of quality research projects in a national competition for limited funding. The IHRSS will include at least 60 percent non-IHS, Federal or non-Federal, individuals, all experts in research. The IHRSS will review each application against established criteria, and will assign a numerical score to each application. The members of the IHRSS will use the following criteria and weights to make the score.

Weights. (Criteria "a" through "f" refer to section I. Research Plan.)

4 a. Specific Aims: statement of study question(s) and objective(s). (Are the study questions stated clearly and precisely? Does the rest of the Research Plan follow logically from the study questions?)

10 b. Background in Research Literature: (Does the background in research literature include the important existing research and knowledge relevant to the study question(s), and pilot data (if applicable)? Do the conclusions follow from the review?)

4 c. Progress Report (for competing continuation studies only). (What is the progress to date? Is the report timely? Does the progress report demonstrate that investigators will achieve the objective(s) of the research?)

15 d. Research design and methods to be used. (Does the Research Plan adequately describe the research design? Is the proposed approach appropriate for the objective(s) of the research? Does the Plan adequately describe: The population to be studied; the inclusion and exclusion criteria, and how the investigators will determine inclusion and exclusion; the sampling techniques; selection of controls (if any); the definition of the independent and dependent variables (if any) and how to measure them; the interventions (if any) and how to assure that they are done in fact; and the definition of the expected outcomes or effects (if any) and how to measure them? Are these methods appropriate to achieve the objective(s) of the research? Are sample size calculations included, if needed? Is the projected sample size achievable, and sufficient to achieve the objective(s) of the research? Does the Plan adequately account for alternative explanations of expected findings? Is the application's timeline, with completion dates of all major tasks, appropriate and feasible?)

10 e. Data sources, management, quality control, and analysis. (Does the Research Plan adequately describe: The data to be collected, by whom, and at what time; the data sources, and how access to the sources will be attained; the procedures to collect, receive, code, and prepare for analysis of the data; the contents of interviews (if they are to be done), and the connection between the interview question and the variables to be studies; how the data will be assured and low response rates dealt with; how accuracy of the data will be measured and assured; the plan for analysis; the statistical analyses to be done (if any); and the non-statistical analyses to be done (if any)? Are these plans appropriate and adequate for the research questions?)

4 f. Originality. (Will this research likely develop *new* methods, or directly lead to *new* information, useful for research *in general*?) (Criteria "g" through "k" refer to section J. Importance and Utility.)

10 g. Importance of the health problem(s) for the community(ies) involved. (Are the health problems addressed by the research project of high importance in the community(ies) involved?)

9 h. Importance of the health problem(s) for all AI/AN people and the IHS Area. (Are the health problems addressed by the research project of high importance in all or major segments of AI/AN people, and in the IHS Area?)

4 i. Setting of the study. (Should the research be done only, or be done best, in an AI/AN population, and in the proposed community(ies)?)

10 j. *Utility of the product and experience to the community(ies) and Service Unit(s) (SU) involved.* (Does the research project have a high expected utility of the product (e.g., *new* information) or of the experience (e.g., *new* research skills, capabilities, resources, or liaisons to do practice-based or community-based research) to the community(ies) and/or SU(s) involved?)

5 k. *Utility of the product and experience to the IHS and other AI/AN people.* (Does the research project have a high expected utility of the product (e.g., *new* information) or of the experience (e.g., *new* research skills, capabilities, resources, or liaisons to do practice-based on community-based research) to the IHS, to the IHS Area, and/or to other AI/AN people?)

5 l. *Budget.* (This criterion refers to section *G. Budget.*) (Is the proposed budget sufficient to do the project? Is the proposed budget excessive? Is the proposed budget being used for the purchase of computers or other expensive equipment? If the research project is a competing continuation, are the additional years necessary? Is the cost justified by the expected benefit?)

10 m. *Key Personnel and Research Time.* (This criterion refers to section *H Key Personnel and Research Team.*) (Does the principal investigator have the training, experience, and time necessary to do and to manage the proposed research project? Does the research team have the capabilities to carry out and complete the project successfully?)

FOR FURTHER INFORMATION CONTACT: Ms. Donna Pexa, Research Program Coordinator, Office of Health Program Research and Development, 7900 South J. Stock Road, Tucson, AZ 85746–9352, (602) 295–2503.

Dated: June 24, 1993.

Michel E. Lincoln,

Acting Director.

[FR Doc. 93–15305 Filed 6–29–93; 8:45 am]

BILLING CODE 4160–16–M

National Institutes of Health

National Institute on Aging; Cancellation of Meeting

Notice is hereby given of the cancellation of the meeting of the Task Force on Aging Research, National Institute on Aging, June 29, 1993, from 9 a.m. to 12 noon in Conference Room 6, Building 31C, National Institutes of Health, 9000 Rockville Pike, Bethesda, Maryland, which was published in the Federal Register on June 10, 1993, page 32538.

We have decided to delay this meeting until September 8, 1993, because developing and editing the recommendations has taken longer than planned.

(Catalog of Federal Domestic Assistance Program No. 93.866, Aging Research, National Institutes of Health)

Dated: June 25, 1993.

Wendy Baldwin,

Acting Deputy Director for Extramural Research.

[FR Doc. 93–15455 Filed 6–29–93; 8:45 am]

BILLING CODE 4140–01–M

National Institute on Deafness and Other Communication Disorders; Meeting

Pursuant to Public Law 92–463, notice is hereby given of the meeting of the following National Institute on Deafness and Other Communication Disorders Special Emphasis Panel.

The meeting will be closed in accordance with the provisions set forth in sec. 552b(c)(4) and 552b(c)(6), title 5, U.S.C. and sec. 10(d) of Public Law 92–463, for the review, discussion and evaluation of individual grant applications, contract proposals, and/or cooperative agreements. These applications and/or proposals and the discussions could reveal confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the applications and/or proposals, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Panel: National Institute on Deafness and Other Communication Disorders Special Emphasis Panel.

Dates of Meeting: July 14, 1993.

Time of Meeting: 8 a.m. to 4:30 p.m.

Place of Meeting: Holiday Inn, Chevy Chase, MD.

Agenda: Review of R03 Applications.

Contact Person: Dr. Mary Nekola, Scientific Review Administrator, NIDCD/SRB, Executive Plaza South, room 400B, Bethesda, Maryland 20892, (301) 496–8683.

(Catalog of Federal Domestic Assistance Program No. 93.173 Biological Research Related to Deafness and Other Communication Disorders)

Dated: June 21, 1993.

Susan K. Feldman,

Committee Management Officer, NIH.

[FR Doc. 93–15312 Filed 6–29–93; 8:45 am]

BILLING CODE 4140–01–M

National Institute of Diabetes and Digestive and Kidney Diseases, National Digestive Diseases Advisory Board; Meeting

Pursuant to Public Law 92–463, notice is hereby given of the meeting of the National Digestive Diseases Advisory Board on July 26–27, 1993. Meetings on both days will begin at approximately 8:30 a.m. and adjourn at approximately 5 p.m. The focus of these meetings will be colorectal cancer and alcoholism and liver disease. These meetings which are open to the public, will be held at the Capital Gateway Marriott, Crystal City, Virginia. Attendance by the public will be limited to space available. Notice of the meeting room will be posted in the hotel lobby.

For any further information, and for individuals who plan to attend and need special assistance, such as sign language interpretation or other reasonable accommodations, please contact Mr. Raymond M. Kuehne, Executive Director, National Digestive Diseases Advisory Board, 1801 Rockville Pike, suite 500, Rockville, Maryland 20852, (301) 496–6045, two weeks prior to the meeting date. In addition, his office will provide a membership roster of the Board and an agenda and summaries of the actual meetings.

(Catalog of Federal Domestic Assistance Program No. 93.847–849, Diabetes, Endocrine and Metabolic Diseases; Digestive Diseases and Nutrition; and Kidney Diseases, Urology and Hematology Research, National Institutes of Health.)

Dated: June 21, 1993.

Susan K. Feldman,

Committee Management Officer, NIH.

[FR Doc. 93–15314 Filed 6–29–93; 8:45 am]

BILLING CODE 4140–01–M

National Institute on Drug Abuse; Meetings

Pursuant to Public Law 92–463, notice is hereby given of the meetings of the advisory committees of the National Institute on Drug Abuse for July 1993.

The initial review groups will be open to the public for approximately one-half hour at the beginning of the first day of the meeting for announcements and reports of administrative, legislative, and program development. Attendance by the public will be limited to space available.

As indicated below in accordance with provisions set forth in sec. 552b(c)(4) and 552b(c)(6), title 5, U.S.C. and sec. 10(d) of Public Law 92–463, the initial review groups will be closed to the public for the review, discussion, and evaluation of individual grant applications on the dates indicated below. These applications and the discussions could reveal confidential trade secrets or commercial property such as patentable material and personal information concerning individuals associated with the applications, disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

The Extramural Science Advisory Board will discuss NIDA's program areas, intramural program and NIDA publications. This meeting will be open on the dates indicated below; however, attendance by the public will be limited to space available.

Summaries of the meetings and rosters of committee members may be obtained from: Ms. Camilla L. Holland, NIDA Committee Management Officer, National Institutes of Health, Parklawn Building, room 10–42, 5600 Fishers Lane, Rockville, MD 20857 (Telephone: 301/443–2755).

Substantive program information may be obtained from the contacts whose names, room numbers, and telephone numbers are listed below.

Committee Name: Sociobehavioral Subcommittee, Drug Abuse AIDS Research Review Committee.

Meeting Date: July 12–14, 1993.

Place: Hyatt Regency Bethesda, One Bethesda Metro Center, Bethesda, Maryland 20814.

Open: July 12, 9 a.m. to 9: a.m.

Closed: 9:30 a.m., July 12, to adjournment on July 14.

Contact: H. Noble Jones, room 10–22, Parklawn Building, Telephone (301) 443–9042.

Committee Name: Biobehavioral/Clinical Subcommittee, Drug Abuse AIDS Research Review Committee.

Meeting Date: July 13–14, 1993.

Place: Hyatt Regency Bethesda, One Bethesda Metro Center, Bethesda, Maryland 20814.

Open: July 13, 9 a.m. to 9:30 a.m.
Closed: 9:30 a.m., July 13, to adjournment on July 14.
Contact: Mary Custer, Ph.D., room 10–42, Parklawn Building, Telephone (301) 443–2620.

Committee Name: Extramural Science Advisory Board, NIDA.
Meeting Date: July 22–23, 1993.
Place: Bethesda Marriott Hotel, 5151 Pooks Hill Road, Bethesda, Maryland 20814.
Open: July 22–23, 9 a.m. to 5 p.m.
Contact: Jacqueline P. Downing, room 10A–55, Parklawn Building, Telephone (301) 443–1056.

Individuals who plan to attend and need special assistance, such as sign language interpretation or other reasonable accommodations, should contact the contact persons named above in advance of the meeting.

(Catalog of Federal Domestic Assistance Program Numbers: 93.277, Drug Abuse Research Scientist Development and Research Scientist Awards; 93.278, Drug Abuse National Research Service Awards for Research Training; 93.279, Drug Abuse Research Programs.)

Dated: June 21, 1993.

Susan K. Feldman,

Committee Management Officer, NIH.

[FR Doc. 93–45311 Filed 6–29–93; 8:45 am]

BILLING CODE 4140–01–M

National Institute of Environmental Health Sciences; Meeting of Environmental Health Sciences Review Committee

Pursuant to Public Law 92–463, notice is hereby given of the meeting of the Environmental Health Sciences Review Committee on August 2–3, 1993 at the National Institute of Environmental Health Sciences, Building 101 Conference Room, South Campus, Research Triangle Park, North Carolina. The meeting will be open to the public on August 2 from 9 a.m. until approximately 11:30 a.m. for general discussion. Attendance by the public is limited to space available.

In accordance with the provisions set forth in secs. 552b(c)(4) and 552b(c)(6), title 5, U.S.C. and sec. 10(d) of Public Law 92–463, the meeting will be closed to the public August 2, from approximately 11:30 a.m. until adjournment on August 3, for the review, discussion and evaluation of individual grant applications. These applications and the discussions could reveal confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Drs. John Braun, or Carol Shreffler, Scientific Review Administrators, Environmental Health Sciences Review Committee, National Institute of Environmental Health Sciences, National Institutes of Health, P.O. Box 12233, Research Triangle Park, North Carolina 27709, (telephone 919–541–7826), will provide summaries of meeting and rosters of committee members. Individuals who plan to attend and need special assistance, such as sign language interpretation or other reasonable accommodations, should contact any of the above named Scientific Review Administrators in advance of the meeting.

(Catalog of Federal Domestic Assistance Program Nos. 93.113, Biological Response to Environmental Health Hazards; 93.114, Applied Toxicological Research and Testing; 93.115, Biometry and Risk Estimation; 93.894, Resource and Manpower Development, National Institutes of Health)

Date: June 21, 1993.

Susan K. Feldman,

Committee Management Officer, NIH.

[FR Doc. 93–15308 Filed 6–29–93; 8:45 am]

BILLING CODE 4140–01–M

National Heart, Lung, and Blood Institute; Meetings

Pursuant to Public Law 92–463, notice is hereby given of the meetings of the following Heart, Lung, and Blood Special Emphasis Panels.

These meetings will be closed in accordance with the provisions set forth in sec. 552b(c)(4) and 552b(c)(6), title 5, U.S.C. and sec. 10(d) of Public Law 92–463, for the review, discussion and evaluation of individual grant applications, contract proposals, and/or cooperative agreements. These applications and/or proposals and the discussions could reveal confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the applications and/or proposals, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Panel: NHLBI SEP on RFA for Specialized Centers of Research in Pediatric Cardiovascular Diseases.
Dates of Meeting: July 11–13, 1993.
Time of Meeting: 7:30 p.m.
Place of Meeting: Holiday Inn, Bethesda, Maryland.
Agenda: To evaluate and review grant applications.
Contact Person: Dr. Dennis Lang, 5333 Westbard Avenue, room 553, Bethesda, Maryland 20892, (301) 594–7448.

Name of Panel: NHLBI SEP on RFA for Gene Therapy for Cystic Fibrosis.
Dates of Meeting: July 11–14, 1993.
Time of Meeting: 8 p.m.
Place of Meeting: Holiday Inn, Bethesda, Maryland.
Agenda: To evaluate and review grant applications.
Contact Person: Dr. Eric H. Brown, 5333 Westbard Avenue, room 5A09, Bethesda, Maryland 20892, (301) 594–7484.

Name of Panel: NHLBI SEP on Structure, Function and Genetics of Coagulation Factors.
Dates of Meeting: July 15, 1993.
Time of Meeting: 11:30 a.m.
Place of Meeting: Embassy Suites Hotel, Chicago O'Hare Airport, Chicago, IL.
Agenda: To review and evaluate grant applications.
Contact Person: Dr. Louis M. Ouellette, 5333 Westbard Avenue, room 552, Bethesda, Maryland 20892, (301) 594–7474.

Name of Panel: NHLBI SEP for the Re-review of a Clinical Investigator Development Award (K08) (Telephone Conference Call).
Dates of Meeting: July 19, 1993.
Time of Meeting: 2 p.m.
Place of Meeting: 5333 Westbard Avenue, room 550, Bethesda, Maryland 20892.
Agenda: To review and evaluate grant applications.
Contact Person: Dr. Kathryn Ballard, 5333 Westbard Avenue, room 550, Bethesda, Maryland 20892, (301) 594–7450.

Name of Panel: NHLBI SEP on Obesity Prevention in American Indians: Field Centers.
Dates of Meeting: July 26, 1993.
Time of Meeting: 1 p.m.
Place of Meeting: Crystal City Marriott, Arlington, Virginia.
Agenda: To review and evaluate grant applications.
Contact Person: Dr. C. James Scheirer, 5333 Westbard Avenue, room 548, Bethesda, Maryland 20892, (301) 594–7452.

(Catalog of Federal Domestic Assistance Program Nos. 93.837, Heart and Vascular Diseases Research; 93.838, Lung Diseases Research; and 93.839, Blood Diseases and Resources Research, National Institutes of Health.)

Dated: June 21, 1993.

Susan K. Feldman,

Committee Management Officer, NIH.

[FR Doc. 93–15313 Filed 6–29–93; 8:45 am]

BILLING CODE 4140–01–M

National Institute of Neurological Disorders and Stroke, Board of Scientific Counselors; Meeting

Pursuant to Public Law 92–463, notice is hereby given of the meeting of the Board of Scientific Counselors, National Institute of Neurological Disorders and Stroke, Division of Intramural Research, on July 21–23, 1993, at the National Institutes of Health, 9000 Rockville Pike, Bethesda, Maryland 20892.

This meeting will be open to the public from 9 a.m. to 12:30 p.m. and

from 1:30 p.m. to 5 p.m. on July 22nd in the Medical Board Room, Bldg. 10, rm. 2C116, to discuss program planning and program accomplishments. Attendance by the public will be limited to space available.

In accordance with the provisions set forth in section 552b(c)(6), title 5, U.S.C. and section 10(d) of Public Law 92–463, the meeting will be closed to the public from 8 p.m. to 10 p.m. on July 21st and from 9 a.m. until adjournment on July 23rd in Bldg. 10, rm. 5S235, for the review, discussion and evaluation of individual programs and projects conducted by the NINDS. The programs and discussions include consideration of personnel qualifications and performances, the competence of individual investigators and similar items, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

The Freedom of Information Coordinator, Ms. Mary Whitehead, Federal Building, room 1004, 7550 Wisconsin Avenue, Bethesda, MD 20892, telephone (301) 496–9231 or the Executive Secretary, Dr. Irwin J. Kopin, Director, Division of Intramural Research, NINDS, Building 10, room 5N214, National Institutes of Health, Bethesda, MD 20892, telephone (301) 496–4297, will furnish a summary of the meeting and a roster of committee members upon request. Individuals who plan to attend and need special assistance, such as sign language interpretation or other reasonable accommodations, should contact the Executive Secretary in advance of the meeting.

(Catalog of Federal Domestic Assistance Program No. 13.853, Clinical Basis Research; No. 13.854, Biological Basis Research)

Dated: June 21, 1993.

Susan K. Feldman,

Committee Management Officer, NIH.

[FR Doc. 93–15310 Filed 6–29–93; 8:45 am]

BILLING CODE 4140–01–M

Division of Research Grants; Notice of Meetings

Pursuant to Public Law 92–463, notice is hereby given of meetings of the Division of Research Grants Behavioral and Neurosciences Special Emphasis Panel.

The meetings will be closed in accordance with the provisions set forth in sec. 552b(c)(4) and 552b(c)(6), title 5, U.S.C. and sec. 10(d) of Public 92–463, for the review, discussion and evaluation of individual grant applications and Small Business Innovation Research Program Applications in the various areas and disciplines related to behavior and neuroscience. These applications and the discussions could reveal confidential trade secrets or commercial property such as patentable material and personal information concerning individuals associated with the applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

The Office of Committee Management, Division of Research Grants, Westwood Building, National Institutes of Health, Bethesda, Maryland 20892, telephone 301–594–7265, will furnish summaries of the meetings and rosters of panel members.

Meetings To Review Individual Grant Applications

Scientific Review Administrator: Dr. Peggy McCardle (301) 594–7293.
Date of Meeting: July 22, 1993.
Place of Meeting: Westwood Bldg., Rm 305, NIH, Bethesda, MD, (Telephone Conference).
Time of Meeting: 1:00 p.m.

Scientific Review Administrator: Dr. Leonard Jakubczak (301) 594–7198.
Date of Meeting: August 9, 1993.
Place of Meeting: Westwood Bldg., Rm 352C, NIH Bethesda, MD (Telephone Conference).
Time of Meeting: 2:00 p.m.

(Catalog of Federal Domestic Assistance Program Nos. 93.306, 93.333, 93.337, 93.393–93.396, 93.837–93.844, 93.846–93.878, 93.892, 93.893, National Institutes of Health, HHS)

Dated: June 21, 1993.

Susan K. Feldman,

Committee Management Office, NIH.

[FR Doc. 93–15315 Filed 6–29–93; 8:45 am]

BILLING CODE 4140–01–M

Public Health Service

Nursing Recruitment Program for Indians

AGENCY: Indian Health Service, HHS.

ACTION: Correction.

SUMMARY: In notice document 93–12496 beginning on page 30791 in the issue of Thursday, May 27, 1993, make the following corrections:

1. On page 30791, in the second column, under "Dates:", in the first paragraph, in the eighth line, delete "May 21," and insert "(insert 30 days after date of publication)". In the second column, under "Additional Dates", second line, delete "July 2, 1993." and insert "(insert 30 days after date of publication.)"; in the third line delete "August 5, 1993." and insert "August 10, 1993." In the third column, under "A. General Program Purpose", line one, add "nurses," after the word "of".

2. On pages 30791–30792, the words "nurse(s) (ADN, BSN)," were inadvertently omitted and should be added before "nurse midwives," in every place it appears under the following headings: "B. Eligibility and Preference", lines 4 and 10; "D. Program Objectives" lines 4, 14, 20, 24; and "I. Criteria for Review and Evaluation", line 27.

Dated: June 24, 1993.

Michel E. Lincoln,

Acting Director.

[FR Doc. 93–15306 Filed 6–29–93; 8:45 am]

BILLING CODE 4160–16–M

Social Security Administration

Privacy Act of 1974; Report of New Routine Uses

AGENCY: Social Security Administration (SSA), Department of Health and Human Services (HHS).

ACTION: Addition of new routine uses to four systems of records.

SUMMARY: In accordance with the Privacy Act (5 U.S.C. 552a(e) (11)), we are issuing public notice of our intent to add new routine uses to the systems of records entitled "Master Files of Social Security Number Holders, HHS/SSA/OSR, 09–60–0058," "Claims Folder System, HHS/SSA/OP, 09–60–0089," "Master Beneficiary Record (MBR), HHS/SSA/OSR, 09–60–0090" and "Supplemental Security Income Record (SSR), HHS/SSA/OSR, 09–60–0103." We invite public comment on this publication.

DATES: The proposed routine uses will become effective as proposed, without further notice on July 30, 1993 unless we receive comments on or before that date which would warrant our preventing the changes from taking effect.

ADDRESSES: Interested individuals may comment on this publication by writing to the SSA Privacy Officer, Social Security Administration, Room 3–D–1 Operations Building, 6401 Security Boulevard, Baltimore, Maryland 21235. All comments received will be available for public inspection at that address.

FOR FURTHER INFORMATION CONTACT: Mr. Stanley Hanna, Social Insurance Specialist, Confidentiality and Disclosure Branch, Division of Technical Documents and Privacy, Office of Regulations, Office of Policy, Social Security Administration, 3–D–1 Operations Building, 6401 Security Boulevard, Baltimore, Maryland 21235, telephone 410–966–7077.

SUPPLEMENTARY INFORMATION:

I. Discussion of Proposed Routine Use

We propose to add new routine uses to the systems of records shown above. The proposed routine uses implement recent legislation governing the disclosure of information by SSA to the Department of Education (DOEd) for administration of DOEd's student loan programs.

A. Disclosure of Address Information

The Emergency Unemployment Compensation Act of 1991 (Pub. L. No. 102–164) amended the Higher Education Act of 1965 (20 U.S.C. 1001, *et. seq.*) by adding a new section 489A (20 U.S.C. 1096a(a)(1)). This section authorizes the Secretary of DOEd "to obtain information from the files and records maintained by any of the departments, agencies or instrumentalities of the United States concerning the most recent address of an individual obligated on a loan held by the Secretary or a loan made in accordance with part B of this subchapter held by a guaranty agency, or an individual owing a refund of an overpayment of a grant awarded under this subchapter * * *." The DOEd will use a contractor in its efforts to locate individuals. Before we disclose any address data about beneficiaries to the DOEd or its contractors, we must comply with the Privacy Act by establishing a routine use.

The proposed routine use will be #32 in the Claims Folder system, #32 in the Master Beneficiary Record system and #30 in the Supplemental Security Income Record system. The routine use will state that:

"Addresses of beneficiaries who are obligated on loans held by the Secretary of Education or a loan made in accordance with 20 U.S.C. 1071, *et. seq.* (the Robert T. Stafford Student Loan Program) may be disclosed to the Department of Education as authorized by Section 489A of the Higher Education Act of 1965."

B. Verification of Social Security Numbers (SSN)

The Higher Education Act of 1965 was reauthorized in July 1992 (Pub. L. No. 102–325). Title IV, part G, section 484(q) (20 U.S.C. 1091) of the new law requires that "the Secretary of Education, in cooperation with the Commissioner of the Social Security Administration, shall verify any social security number provided by a student to an eligible institution * * *." A new routine use will enable SSA to verify SSNs at the request of the DOEd.

The proposed routine use will be #29 in the Master Files of Social Security Number Holders system. It will state that:

"Upon request by the Department of Education, SSNs which are provided by students to postsecondary educational institutions may be verified as required by title IV of the Higher Education Act of 1965 (20 U.S.C. 1091)."

II. Compatibility of Proposed Routine Uses

We are proposing the changes discussed above in accordance with the Privacy Act (5 U.S.C. 552a(a)(7), (b)(3), and (e)(11)) and our disclosure regulation (20 CFR part 401).

The Privacy Act permits us to disclose information about individuals without their consent for routine uses when the purposes for which the information would be used by an agency receiving it from SSA would be compatible with the purposes for which SSA collects the information. We believe that disclosure which is required by law meets the compatibility requirement for routine uses under the Privacy Act based on the obvious congressional intent that the information be used for the purposes for which its release is required by the statute. The proposed disclosures to DOEd described above meet this compatibility criterion, since they are required by law.

III. Effect of the Proposal on Individual Rights

As discussed above, the proposed disclosures to the DOEd are required by Federal law. They will assist the DOEd in administering its student loan programs, including the location of individuals who default on loan repayments. SSA will follow all statutory and regulatory requirements for disclosure. Therefore, we do not anticipate that the disclosures will have any unwarranted effect on the privacy or other rights of individuals.

IV. Other Changes

We have made editorial and technical changes throughout the notices of systems of records effected by this publication. These changes include publication of routine uses #15 through 19 under the Supplemental Security Income Record (09–60–0103) which were inadvertently omitted in the FEDERAL REGISTER publication of November 24, 1992.

Dated: June 17, 1993.

Louis D. Enoff,

Principal Deputy Commissioner of Social Security.

09–60–0058

SYSTEM NAME:

Master Files of Social Security Number Holders, HHS/SSA/OSR.

SECURITY CLASSIFICATION:

None.

SYSTEM LOCATIONS:

Social Security Administration, Office of System Operations, 6401 Security Boulevard, Baltimore, MD 21235.

Social Security Administration, Office of Central Records Operations, Metro West Building, 300 N. Greene Street, Baltimore, MD 21201.

Social Security Administration, Office of System Requirements, 6401 Security Boulevard, Baltimore, MD 21235.

Records may also be maintained at contractor sites (contact the system manager at the address below to obtain contract addresses).

CATEGORIES OF INDIVIDUALS COVERED BY THE SYSTEM:

This system contains a record of each individual who has applied for and/or obtained a Social Security number (SSN).

CATEGORIES OF RECORDS IN THE SYSTEM:

This system contains all of the information received on original applications for SSNs (e.g., name, date and place of birth, both parents' names, and race/ethnic data) and any changes in the information on the applications that are submitted by the SSN holder. Cross-references may be noted where multiple numbers have been issued to the same individual and an indication may be shown that a benefit claim has been made under a particular SSN(s).

AUTHORITY FOR MAINTENANCE OF THE SYSTEM:

Sections 205(a) and 205(c)(2) of the Social Security Act.

PURPOSE(S):

Information in this system is used by the Social Security Administration (SSA) to assign SSNs. The information also is used for a number of administrative purposes, such as:

- By SSA components for various title II, XVI, and XVIII claims purposes including usage of the SSN itself as a case control number and a secondary beneficiary cross-reference control number for enforcement purposes and use of the SSN record data for verification of claimant identity factors and for other claims purposes related to establishing benefit entitlement;

- By SSA as a basic control for retained earnings information;
- By SSA as a basic control and data source to prevent issuance of multiple SSNs;
- As the means to identify reported names or SSNs on earnings reports;
- For resolution of earnings discrepancy cases;
- For statistical studies;
- By the Department of Health and Human Services (HHS), Office of Inspector General, Office of Audit Services, for auditing benefit payments under Social Security programs;
- By the HHS Office of Child Support Enforcement for locating parents who owe child support;
- By the National Institute of Occupational Safety and Health for epidemiological research studies required by the Occupational Safety and Health Act of 1974;
- By the SSA Office of Refugee Resettlement for administering Cuban refugee assistance payments; and
- By the HHS Health Care Financing Administration for administering Title XVIII claims.

ROUTINE USES OF RECORDS MAINTAINED IN THE SYSTEM, INCLUDING CATEGORIES OF USERS AND THE PURPOSES OF SUCH USES:

Disclosure may be made for routine uses as indicated below:

1. Employers are notified of the SSNs of employees in order to complete their records for reporting wages to SSA pursuant to the Federal Insurance Contributions Act and section 218 of the Social Security Act.

2. To State welfare agencies, upon written request, of the SSNs of Aid to Families with Dependent Children applicants or recipients.

3. To the Department of Justice (DOJ), Federal Bureau of Investigation and United States Attorneys, for investigating and prosecuting violations of the Social Security Act.

4. To the DOJ, Immigration and Naturalization Service, for the identification and location of aliens in the United States pursuant to requests received under section 290(c) of the Immigration and Nationality Act (8 U.S.C. 1360(c)).

5. To a contractor for the purpose of collating, evaluating, analyzing, aggregating or otherwise refining records when SSA contracts with a private firm. (The contractor shall be required to maintain Privacy Act safeguards with respect to such records.)

6. To the Railroad Retirement Board for:

(a) Administering provisions of the Railroad Retirement and Social Security Acts relating to railroad employment; and

(b) Administering the Railroad Unemployment Insurance Act.

7. To the Department of Energy for its study of the long-term effects of low-level radiation exposure.

8. To the Department of the Treasury for:

(a) Tax administration as defined in section 6103 of the Internal Revenue Code (26 U.S.C. 6103); and

(b) Investigating the alleged theft, forgery, or unlawful negotiation of Social Security checks.

9. To a congressional office in response to an inquiry from the office made at the request of the subject of a record.

10. To the Department of State for administering the Social Security Act in foreign countries through facilities and services of that agency.

11. To the American Institute of Taiwan for administering the Social Security Act on Taiwan through facilities and services of that agency.

12. To the Department of Veterans Affairs (DVA), Philippines Regional Office, for administering the Social Security Act in the Philippines through facilities and services of that agency.

13. To the Department of the Interior for administering the Social Security Act in the Trust Territory of the Pacific Islands through facilities and services of that agency.

14. To the Department of Labor for:

(a) Administering provisions of the Federal Coal Mine Health and Safety Act; and

(b) Conducting studies of the effectiveness of training programs to combat poverty.

15. To DVA for the following purposes:

(a) For the purpose of validating SSNs of compensation recipients/pensioners in order to provide the release of accurate pension/compensation data by DVA to SSA for Social Security program purposes; and

(b) Upon request, for purposes of determining eligibility for or amount of DVA benefits, or verifying other information with respect thereto.

16. To Federal agencies which use the SSN as a numerical identifier in their recordkeeping systems, for the purpose of validating SSNs.

17. To DOJ, to a court, to another tribunal, or to another party before such tribunal, when:

(a) SSA, or any component thereof; or

(b) Any SSA employee in his/her official capacity; or

(c) Any SSA employee in his/her individual capacity when DOJ (or SSA when it is authorized to do so) has agreed to represent the employee; or

(d) The United States or any agency thereof when SSA determines that the litigation is likely to affect the operations of SSA or any of its components

is a party to litigation or has an interest in such litigation, and SSA determines that the use of such records by DOJ, the tribunal, or other party before such tribunal is relevant and necessary to the litigation, provided, however, that in each case, SSA determines that such disclosure is compatible with the purpose for which the records were disclosed.

Wage and other information that is subject to disclosure provisions of the Internal Revenue Code (IRC) will not be disclosed under this routine use unless disclosure is expressly permitted by the IRC.

18. To State audit agencies for auditing State supplementation payments and Medicaid eligibility considerations.

19. Information necessary to adjudicate claims filed under an international Social Security agreement that the United States has entered into pursuant to section 233 of the Social Security Act may be disclosed to a foreign country which is a party to that agreement.

20. To Federal, State, or local agencies (or agents on their behalf) for the purpose of validating SSNs used in administering cash or noncash income maintenance programs or health maintenance programs (including programs under the Social Security Act).

21. To third party contacts when the party to be contacted has, or is expected to have, information which will verify documents when SSA is unable to determine if such documents are authentic.

22. Upon request, information on the identity and location of aliens may be disclosed to the DOJ, Criminal Division, Office of Special Investigations, for the purpose of detecting, investigating, and, when appropriate, taking legal action against suspected Nazi war criminals in the United States.

23. To the Selective Service System for the purpose of enforcing draft registration pursuant to the provisions of the Military Selective Service Act (50 U.S.C. App. 462, as amended by section 916 of Pub. L. 97–86).

24. To contractors and other Federal agencies, as necessary, for the purpose of assisting SSA in the efficient administration of its programs. We contemplate disclosing information under this routine use only in situations in which SSA may enter into a contractual or similar agreement with a third party to assist in accomplishing an

agency function relating to this system of records.

25. Validated SSN information may be disclosed to organizations or agencies such as prison systems that are required by law to furnish SSA with SSN information.

26. Nontax return information that is not restricted from disclosure by Federal law may be disclosed to the General Services Administration and the National Archives and Records Administration for the purpose of conducting records management studies with respect to their duties and responsibilities under 44 U.S.C. 2904 and 2906, as amended by the National Archives and Records Administration Act of 1984.

27. Disclosure of SSNs and dates of birth may be made to the DVA or third parties under contract to that agency for the purpose of conducting DVA medical research and epidemiological studies.

28. SSN information may be disclosed to the Office of Personnel Management (OPM) upon receipt of a request from that agency in accordance with 5 U.S.C. 8347(m)(3), when OPM needs the information in administering its pension program for retired Federal Civil Service employees.

29. Upon request by the Department of Education, SSNs which are provided by students to postsecondary educational institutions may be verified as required by Title IV of the Higher Education Act of 1965 (20 U.S.C. 1091).

POLICIES AND PRACTICES FOR STORING, RETRIEVING, ACCESSING, RETAINING, AND DISPOSING OF RECORDS IN THE SYSTEM:

STORAGE:

Records in this system are maintained in paper form (e.g., paper lists and punch cards); magnetic media (e.g., magnetic tape and disk with on-line access); and in microfilm and microfiche form.

RETRIEVABILITY:

Records in this system are indexed by both SSN and name.

SAFEGUARDS:

Safeguards for automated records have been established in accordance with the HHS Automated Data Processing Manual, "Part 6, ADP Systems Security." This includes maintaining the magnetic tapes and disks within a secured enclosure attended by security guards. Anyone entering or leaving this enclosure must have a special badge issued only to authorized personnel.

For computerized records electronically transmitted between Central Office and Field Office locations (including organizations administering SSA programs under contractual agreements), safeguards include a lock/unlock password system, exclusive use of leased telephone lines, a terminal-oriented transaction matrix, and an audit trail. All microfilm, microfiche, and paper files are accessible only by authorized personnel who have a need for the records in the performance of their official duties.

Expansion and improvement of SSA's telecommunications system has resulted in the acquisition of terminals equipped with physical key locks. The terminals also are fitted with adapters to permit the future installation of data encryption devices and devices to permit the identification of terminal users.

RETENTION AND DISPOSAL:

All paper forms are retained for 5 years after they have been filmed or entered on tape and the accuracy has been verified. They then are destroyed by shredding. All tape, disks, microfilm, and microfiche files are updated periodically. Out-of-date magnetic tapes and disks are erased. Out-of-date microfiches are disposed of by applying heat.

SYSTEM MANAGER AND ADDRESS:

Director, Office of Pre-Claims Requirements, Social Security Administration, 6401 Security Boulevard, Baltimore, MD 21235.

NOTIFICATION PROCEDURES:

An individual can determine if this system contains a record pertaining to him/her by providing his/her name, signature, and SSN; or, if the SSN is unknown, name, signature, date and place of birth, mother's birth name, and father's name, and evidence of identity to the address shown under "System manager" above. (Furnishing the SSN is voluntary, but it makes searching for an individual's record easier and avoids delay.) These procedures are in accordance with HHS Regulations 45 CFR part 5b.

RECORD ACCESS PROCEDURES:

Same as notification procedures. Also, requesters should reasonably specify the record contents which they are seeking. These procedures are in accordance with HHS Regulations 45 CFR part 5b.

CONTESTING RECORD PROCEDURES:

Same as notification procedures above. Also, requesters should reasonably identify the record, specify the information which they are contesting, and state the corrective action sought and the reasons for the correction, with supporting justification showing how the record is complete, untimely, inaccurate, or irrelevant. These procedures are in accordance with HHS Regulations 45 CFR part 5b.

RECORD SOURCE CATEGORIES:

Information in this system is obtained from SSN applicants (or individuals acting on their behalf). The SSN itself is assigned to the individual as a result of internal processes of this system.

SYSTEM EXEMPTIONS FROM CERTAIN PROVISIONS OF THE ACT:

None.

09–60–0089

SYSTEM NAME:

Claims Folders System, HHS/SSA/OP

SECURITY CLASSIFICATION:

None.

SYSTEM LOCATION:

The claims folders initially are established and maintained in Social Security field offices when claims for benefits are filed or a lead is expected to result in a claim. Telephone and address information for Social Security field offices may be found in local telephone directories under United States Department of Health and Human Services, Social Security Administration or under Social Security Administration. The claims folders are retained in field offices until all development has been completed, and then transferred to the appropriate processing center as set out below.

Supplemental Security Income (SSI) claims folders are held in Social Security field offices pending establishment of a payment record, or until the appeal period in a denied claim situation has expired. The folders are then transferred to a folder-staging facility (FSF) in Wilkes-Barre, Pennsylvania. The address is: Social Security Administration, SSI Folder Staging Operations, Wilkes-Barre Data Operations Center, P.O. Box 7000, Wilkes-Barre, PA 18703.

Retirement and Survivors Insurance (RSI) claims folders are maintained primarily in the Social Security Administration's (SSA's) Program Service Centers (PSC's) (contact the system manager at the address below for PSC address information). If the individual to whom the claim pertains resides outside the United States or any of its possessions, the folder is maintained in the Office of Disability and International Operations (ODIO). The address for ODIO is: Social Security Administration, P.O. Box 1756, Baltimore, MD 21203.

Disability Insurance (DI) claims folders for individuals under age 59 are

maintained primarily in the SSA Office of Disability Operations (ODO). The address for ODO is: Social Security Administration, Office of Disability Operations, 1500 Woodlawn Drive, Baltimore, MD 21241.

If the individual resides outside the United States or any of its possessions, DI claims folders for individuals under age 59 are maintained in ODIO (see the address above). DI claims folders for disabled individuals over age 58 are maintained in SSA's PSC's (contact the system manager for addresses).

Claims folders relating to Black Lung (BL) claims are maintained in ODIO at the following address: Social Security Administration, Office of Disability and International Operations, 1500 Woodlawn Drive, Baltimore, MD 21241.

In addition, claims folders are transferred to numerous other locations throughout the Department of Health and Human Services (HHS) and the General Services Administration (GSA) and on occasion may be temporarily transferred to other Federal agencies. The DI claims folders also are transferred to State agencies for disability and vocational rehabilitation determinations.

CATEGORIES OF INDIVIDUALS COVERED BY THE SYSTEM:

Claimants, applicants, beneficiaries and potential claimants for RSI and DI benefits; Health Insurance (HI) benefits; BL benefits or SSI payments. Folders also are maintained on claims that have been denied.

CATEGORIES OF RECORDS IN THE SYSTEM:

The claim folder is established when a claim for benefits is filed or a lead is expected to result in a claim. It contains the name and Social Security number (SSN) of the claimant or potential claimant; the application for benefits; earnings record information established and maintained by SSA; documents supporting findings of fact regarding factors of entitlement and continuing eligibility; payment documentation; correspondence to and from claimants and/or representatives; information about representative payees; and leads information from third parties such as social service agencies, the Internal Revenue Service (IRS), the Department of Veterans Affairs (DVA) and mental institutions.

The claim folder also may contain data collected as a result of inquiries or complaints, and evaluation and measurement studies of the effectiveness of claims policies.

Separate files may be maintained of certain actions which are entered directly into the computer processes. These relate to reports of changes of address, work status, and other post-adjudicative reports. Separate files also temporarily may be maintained for the purpose of resolving problem cases.

Separate abstracts also are maintained for statistical purposes (i.e., disallowances, technical denials, and demographic and statistical information relating to disability decisions).

AUTHORITY FOR MAINTENANCE OF THE SYSTEM:

Sections 202–205, 223, 226, 228, 1611, 1631, 1818, 1836, and 1840 of the Social Security Act and sections 411 and 413 of the Federal Coal Mine and Health Safety Act, as amended by the Black Lung Benefits Act.

PURPOSE(S):

The claim folder constitutes the basic record for payments and determinations under the Social Security Act and the Federal Coal Mine Health and Safety Act. Data are used to produce and maintain the Master Beneficiary Record (09–60–0090) which is the automated payment system for RSI and DI benefits; the Supplemental Security Income Record (09–60–0103) which is the payment system for the aged, blind, and disabled payments; the Black Lung Payment System (09–60–0045) which is the payment system for BL claims; and the Health Insurance Billing and Collection Master Record system (09–70–0522) which is the payment system for HI and Supplementary Medical Insurance (Medicare) benefits.

This paper file is controlled by the SSA Claims Control System while the claim is pending development for adjudication in the field office, and by the Case Control System once the folder has been transferred to the processing center (ODIO, PSC, or ODO).

The claims folders are used throughout SSA for purposes of pursuing claims, determining, organizing and maintaining documents for making determinations as to eligibility for benefits, the amount of benefits, the appropriate payee for benefits, reviewing continuing eligibility, holding hearings or administrative review processes; ensuring that proper adjustments are made based on events affecting entitlement; and answering inquiries.

The folder may be referred to State Disability Determination Services (DDS's) or vocational rehabilitation agencies in disability cases. They may also be used for quality review, evaluation, and measurement studies, and other statistical and research purposes. Extracts may be maintained as interviewing tools, activity logs, records of claims clearance, and records of type or nature of actions taken.

ROUTINE USES OF RECORDS MAINTAINED IN THE SYSTEM, INCLUDING CATEGORIES OF USERS AND THE PURPOSE OF SUCH USES:

Disclosure may be made for routine uses as indicated below:

1. To third party contacts in situations where the party to be contacted has, or is expected to have, information relating to the individual's capability to manage his/her affairs or his/her eligibility for or entitlement to benefits under the Social Security program when:

(a) The individual is unable to provide information being sought. An individual is considered to be unable to provide certain types of information when:

(1) He/she is capable or of questionable mental capability;

(2) He/she cannot read or write;

(3) He/she cannot afford the cost of obtaining the information;

(4) He/she has a hearing impairment, and is contacting SSA by telephone through a telecommunications relay system operator;

(5) A language barrier exists; or

(6) The custodian of the information will not, as a matter of policy, provide it to the individual; or

(b) The data are needed to establish the validity of evidence or to verify the accuracy of information presented by the individual, and it concerns one or more of the following:

(1) His/her eligibility for benefits under the Social Security program;

(2) The amount of his/her benefit payment; or

(3) Any case in which the evidence is being reviewed as a result of suspected abuse or fraud, concern for program integrity, or for quality appraisal, or evaluation and measurement activities.

2. To third party contacts where necessary to establish or verify information provided by representative payees or payee applicants.

3. To a person (or persons) on the rolls when a claim is filed by an individual which is adverse to the person on the rolls; i.e.:

(a) An award of benefits to a new claimant precludes an award to a prior claimant; or

(b) An award of benefits to a new claimant will reduce the benefit payments to the individual(s) on the rolls:

But only for information concerning the facts relevant to the interests of each party in a claim.

4. To employers or former employers for correcting or reconstructing earnings records and for Social Security tax purposes only.

5. To the Department of the Treasury for:

(a) Collecting Social Security taxes or as otherwise pertinent to tax and benefit payment provisions of the Social Security Act (including SSN verification services); or

(b) Investigating alleged theft, forgery, or unlawful negotiation of Social Security checks.

6. To the United States Postal Service for investigating the alleged forgery, theft or unlawful negotiation of Social Security checks.

7. To the Department of Justice (DOJ) for:

(a) Investigating and prosecuting violations of the Social Security Act to which criminal penalties attach,

(b) Representing the Secretary, or

(c) Investigating issues of fraud by agency officers or employees, or violation of civil rights.

8. To the Department of State for administering the Social Security Act in foreign countries through facilities and services of that agency.

9. To the American Institute of Taiwan for administering the Social Security Act in Taiwan through facilities and services of that organization.

10. To the DVA, Philippines Regional Office, for administering the Social Security Act in the Philippines through facilities services of that agency.

11. To the Department of Interior for administering the Social Security Act in the Trust Territory of the Pacific Islands through facilities of that agency.

12. To the Railroad Retirement Board for administering provisions of the Social Security Act relating to railroad employment.

13. To State Social Security Administrators for administration of agreements pursuant to section 218 of the Social Security Act.

14. To State audit agencies for:

(a) Auditing State supplementation payments and Medicaid eligibility considerations; and

(b) Expenditures of Federal funds by the State in support of the DDS.

15. To private medical and vocational consultants for use in making preparation for, or evaluating the results of, consultative medical examinations or vocational assessments which they were engaged to perform by SSA or a State agency acting in accord with sections 221 or 1633 of the Social Security Act.

16. To specified business and other community members and Federal, State, and local agencies for verification of eligibility for benefits under section 1631(e) of the Social Security Act.

17. To institutions or facilities approved for treatment of drug addicts or alcoholics as a condition of the individual's eligibility for payment under section 1611(e)(3) of the Social Security Act and as authorized by regulations issued by the Special Action Office for Drug Abuse Prevention.

18. To applicants, claimants, prospective applicants or claimants, other than the data subject, their authorized representatives or representatives payees to the extent necessary to pursue Social Security claims and to representative payees when the information pertains to individuals for whom they serve as representative payees, for the purpose of assisting SSA in administering its representative payment responsibilities under the Social Security Act and assisting the representative payees in performing their duties as payees, including receiving and accounting for benefits for individuals for whom they serve as payees.

19. To a congressional office in response to an inquiry from that office made at the request of the subject of a record.

20. In response to legal process or interrogatories relating to the enforcement of an individual's child support or alimony obligations, as required by sections 459 and 461 of the Social Security Act.

21. To Federal, State, or local agencies (or agents on their behalf) for administering cash or noncash income maintenance or health maintenance programs (including programs under the Social Security Act). Such disclosures include, but are not limited to, release of information to:

(a) The Railroad Retirement Board for administering provisions of the Railroad Retirement and Social Security Acts relating to railroad employment and for administering the Railroad Unemployment Insurance Act;

(b) The DVA for administering 38 U.S.C. 412, and upon request, information needed to determine eligibility for or amount of DVA benefits or verifying other information with respect thereto;

(c) The Department of Labor for administering provisions of Title IV of the Federal Coal Mine Health and Safety Act, as amended by the Black Lung Benefits Act;

(d) State welfare departments for administering sections 205(c)(B)(i)(III) and 402(a)(25) of the Social Security Act requiring information about assigned SSNs for Aid to Families with Dependent Children program purposes only;

(e) State agencies for making determinations of Medicaid eligibility; and,

(f) State agencies for making determinations of food stamp eligibility under the food stamp program.

22. To State welfare departments:

(a) pursuant to agreements with SSA for administration of State supplementation payments;

(b) For enrollment of welfare recipients for medical insurance under section 1843 of the Social Security Act; and

(c) For conducting independent quality assurance reviews of SSI recipient records, provided that the agreement for Federal administration of the supplementation provides for such an independent review.

23. To State vocational rehabilitation agencies or State crippled children's service agencies (or other agencies providing services to disabled children) for consideration of rehabilitation services per sections 222(a) and 1615 of the Social Security Act.

24. Information necessary to adjudicate claims filed under an international Social Security agreement that the United States has entered into pursuant to section 233 of the Social Security Act may be disclosed to a foreign country that is a part to that agreement.

25. To IRS, Department of the Treasury, for the purpose of auditing SSA's compliance with the safeguard provisions of the Internal Revenue Code of 1986, as amended.

26. To the Office of the President for responding to an individual pursuant to an inquiry received from that individual or from a third party on his or her behalf.

27. To third part contacts (including private collection agencies under contract with SSA) for the purpose of their assisting SSA in recovering overpayments.

28. To DOJ (Immigration and Naturalization), upon request, to identify and locate aliens in the United States pursuant to section 290(c) of the Immigration and Nationality Act (8 U.S.C. 1360(c)).

29. Information may be disclosed to contractors and other Federal agencies, as necessary, for the purpose of assisting SSA in the efficient administration of its programs. We contemplate disclosing information under this routine use only in situations in which SSA may enter a contractual or similar agreement with a third party to assist in accomplishing an agency function relating to this system of records.

30. Nontax return information which is not restricted from disclosure by Federal law may be disclosed to the GSA and the National Archives and Records Administration for the purpose

of conducting records management studies with respect to their duties and responsibilities under 44 U.S.C. 2904 and 2906, as amended by the National Archives and Records Administration Act of 1984.

31. To DOJ, a court or other tribunal, or another party before such tribunal when:

(a) SSA, any component thereof; or

(b) Any SSA employee in his/her official capacity; or

(c) Any SSA employee in his/her individual capacity where DOJ (or SSA where it is authorized to do so) has agreed to present the employee; or

(d) The United States or any agency thereof where SSA determines that the litigation is likely to affect the operations of SSA or any of its components,

is a party to litigation or has an interest in such litigation, and SSA determines that the use of such records by DOJ, the court or other tribunal is relevant and necessary to the litigation, provided, however, that in each case, SSA determines that such disclosure is compatible with the purpose for which the records were collected.

Wage and other information which is subject to the disclosure provisions of the Internal Revenue Code (IRC) (26 U.S.C. 6103) will not be disclosed under this routine use unless disclosure is expressly permitted by the IRC.

32. Addresses of beneficiaries who are obligated on loans held by the Secretary of Education or a loan made in accordance with 20 USC 1071, *et seq.* (the Robert T. Stafford Student Loan Program) may be disclosed to the Department of Education as authorized by section 489A of the Higher Education Act of 1965.

POLICIES AND PRACTICES FOR STORING, RETRIEVING, ACCESSING AND DISPOSING OF RECORDS IN THE SYSTEM:

STORAGE:

Records generally are maintained manually in file folders. However, some records may be maintained in magnetic media (e.g., on disk and microcomputer).

RETRIEVABILITY:

Claims folders are retrieved both numerically by SSN and alphabetically by name.

SAFEGUARDS:

Claims folders are protected through limited access to SSA records. Access to the records is limited to those employees who require such access in the performance of their official duties. All employees are instructed in SSA confidentiality rules as a part of their initial orientation training.

RETENTION AND DISPOSAL:

The retention period for claims folders are as follows:

A. RSI Claims Folders

Folders for disallowed life and death claims, withdrawals, and lump-sum claims in which potential entitlements exist are transferred to the Federal Records Center (FRC) after being so identified and then destroyed 10 years thereafter.

Folders for awarded claims where the last payment has been made and there is no future potential claimant indicated in the record are transferred to the FRC and then destroyed 5 years thereafter.

B. DI Claims Folders

Folders for DI denial claims are transferred to the FRC after expiration of the reconsideration period and then destroyed 10 years thereafter.

Folders for terminated DI claims are transferred to the FRC after being identified as eligible for transfer and then destroyed 10 years thereafter.

C. SSI Claims Folders

Folders for SSI death termination claims are destroyed 2 years after resolution of possible outstanding overpayments or underpayments. Folders for other SSI terminations are transferred to the FRC after termination and destroyed after 6 years, 6 months.

When a subsequent claim is filed on the SSN the claim folder is recalled from the FRC. Similarly, claims folders may be recalled from the FRC at any time by SSA, as necessary, in the administration of Social Security programs. When this occurs, the folder will be temporarily maintained in a Social Security field, regional or central office.

Separate files of actions entered directly into the computer processes are shredded or destroyed by heat after 1–6 months. Claims leads that do not result in a filing of an application are destroyed 6 months after the inquirer is invited by letter to file a claim.

All paper claim files are disposed of by shredding or the application of heat when the retention periods have expired.

SYSTEM MANAGER(S) AND ADDRESS:

SSA Privacy Officer, Social Security Administration, 6401 Security Boulevard, Baltimore MD 21235.

NOTIFICATION PROCEDURE:

An individual can determine if this system contains a record about him/her by contacting any Social Security field office.

When requesting notification, the individual should provide his/her name, SSN, and the type of claim he or she filed (RSI, DI, HI, BL special minimum payments, or SSI). If more than one claim is filed, each should be identified, whether he/she is or has been receiving benefits, whether payments are being received under his or her own SSN, and if not, the name and SSN under which received, if benefits have not been received, the approximate date and place the claim was filed, and his/her address and/or telephone number. (Furnishing the SSN is voluntary, but it will make searching for an individual's record easier and prevent delay.)

An individual requesting notification of records in person need not furnish any special documents of identity. Documents he/she would normally carry on his/her person would be sufficient (e.g., credit cards, drivers license or voter registration card). An individual requesting notification via mail or telephone must furnish a minimum of his/her name, date of birth and address in order to establish identity, plus any additional information specified in this section.

An individual who requests access to a medical record shall, at the time he/she makes the request, designate in writing a responsible representative who will be willing to review the record and inform the subject individual of its contents at the representative's discretion.

A parent or guardian who requests notification of or access to a minor's medical record shall at the time he/she makes the request designate a physician or other health professional (other than a family member) who will be willing to review the record and inform the parent or guardian of its contents at the physician's or health professional's discretion.

These procedures are in accordance with HHS regulations 45 CFR part 5b.

RECORD ACCESS PROCEDURES:

Same as notification procedures. Requesters should also reasonably specify the information they are seeking. These procedures are in accordance with HHS regulations 45 CFR part 5b.

CONTESTING RECORD PROCEDURES:

Same as notification procedures. Requesters should also reasonably identify the record, specify the information they are contesting and state the corrective action sought and the reasons for the correction with supporting justification showing how the record is incomplete, untimely, inaccurate or irrelevant. These procedures are in accordance with HHS regulations 45 CFR part 5b.

RECORD SOURCE CATEGORIES:

Information in this system is obtained from claimants, beneficiaries, applicants and recipients; accumulated by SSA from reports of employers or self-employed individuals; various local, State, and Federal agencies; claimant representatives and other sources to support factors of entitlement and continuing eligibility or to provide leads information.

SYSTEMS EXEMPTED FROM CERTAIN PROVISIONS OF THE ACT:

None.

09-60-0090

SYSTEM NAME:

Master Beneficiary Record (MBR), HHS/SSA/OSR.

SECURITY CLASSIFICATION:

None.

SYSTEM LOCATION:

Social Security Administration, Office of System Operations, 6401 Security Boulevard, Baltimore, MD 21235.

CATEGORIES OF INDIVIDUALS COVERED BY THE SYSTEM:

All Social Security beneficiaries who are or were entitled to receive Retirement and Survivors Insurance (RSI), or Disability Insurance (DI) benefits, including individuals who have received a RSI or DI payment since November 1978 even if their payment is not part of an ongoing award of benefits; individuals (nonclaimants) on whose earnings records former spouses apply for RSI or DI benefits; persons who are only enrolled in the Hospital and/or Supplementary Medical Insurance (SMI) programs; and claimants whose benefits have been denied or disallowed.

The system also contains short references to records for persons entitled to Supplemental Security Income Payments, Black Lung benefits or Railroad Retirement Board (RRB) benefits.

CATEGORIES OF RECORDS IN THE SYSTEM:

The MBR contains information about each claimant who has applied for RSI or DI benefits, or to be enrolled in the Hospital or SMI programs; a record of the amount of Federal tax withheld on benefits paid to nonresident aliens; and the aggregate amount of benefit payments, repayments and reductions with respect to an individual in a calendar year. A record is maintained under each individual's Social Security number (SSN). However, if the individual has filed on another person's SSN, only a short "pointer" record is maintained. Personal and general data about the claim is maintained under the SSN of that claim. Data about the claimant can be accessed using the claimant's SSN or the SSN on which benefits have been awarded or claimed (claim account number (CAN)).

There are three types of data in each CAN:

Account data. This includes the primary insurance amount, insured status of the SSN holder (if no monthly benefits are payable), data relating to the computation (use of military service credits, railroad retirement credits, or coverage credits earned under the social security system of a foreign country when the claim is based on a totalization agreement), and, if only survivor's benefits have been paid, identifying data about the SSN holder (full name, date of birth, date of death and verification of date of death).

Payment data. This includes the payee's name and address, data about a financial institution (if benefits are sent directly to the institution for deposit), the monthly payment amount, the amount and date of a one-time payment of past due benefits, and, where appropriate, a scheduled future payment. Payment data can refer to one beneficiary or several beneficiaries in a combined payment.

Beneficiary data. This includes personal information (name, date of birth, sex, date of filing, relationship to the SSN holder, other SSN's, benefit amount and payment status), and, if applicable, information about a representative payee, data about disability entitlement, worker's compensation offset data, estimates and report of earnings, or student entitlement information.

AUTHORITY FOR MAINTENANCE OF THE SYSTEM:

Sect. 202–205, 223, 226, 228, 1818, 1836, and 1840 of the Social Security Act (the Act).

PURPOSE(S):

Data in this system are used by a broad range of Social Security employees for responding to inquiries, generating followups on beneficiary reporting events, computer exception processing, statistical studies, conversion of benefits, and generating records for the Department of the Treasury to pay the correct benefit amount.

Data in this system also are available to the Department of Health and Human Services' (HHS') Inspector General for use in the performance of his/her duties.

ROUTINE USES OF RECORDS MAINTAINED IN THE SYSTEM, INCLUDING CATEGORIES OF USERS AND THE PURPOSES OF SUCH USES:

Disclosure may be made for routine uses as indicated below:

1. To applicants or claimants, prospective applicants or claimants (other than the data subject), their authorized representatives or representative payees to the extent necessary to pursue Social Security claims and to representative payees, when the information pertains to individuals for whom they serve as representative payees, for the purpose of assisting SSA in administering its representative payment responsibilities under the Act and assisting the representative payees in performing their duties as payees, including receiving and accounting for benefits for individuals for whom they serve as payees.

2. To third party contacts in situations where the party to be contacted has, or is expected to have, information relating to the individual's capability to manage his/her affairs or his/her eligibility for, or entitlement to, benefits under the Social Security program when:

(a) The individual is unable to provide information being sought. An individual is considered to be unable to provide certain types of information when:

(1) He/she is incapable or of questionable mental capability;

(2) He/she cannot read or write;

(3) He/she cannot afford the cost of obtaining the information;

(4) He/she has a hearing impairment, and is contacting SSA by telephone through a telecommunications relay system operator;

(5) A language barrier exists; or

(6) The custodian of the information will not, as a matter of policy, provide it to the individual; or

(b) The data are needed to establish the validity of evidence or to verify the accuracy of information presented by the individual, and it concerns one or more of the following:

(1) His/her eligibility for benefits under the Social Security program;

(2) The amount of his/her benefit payment; or

(3) Any case in which the evidence is being reviewed as a result of suspected fraud, concern for program integrity, quality appraisal, or evaluation and measurement activities.

3. To third party contacts where necessary to establish or verify information provided by representative payees or payee applicants.

4. To a person (or persons) on the rolls when a claim is filed by another individual which is adverse to the person on the rolls:

(a) An award of benefits to a new claimant precludes an award to a prior claimant; or

(b) An award of benefits to a new claimant will reduce the benefit payments to the individual(s) on the roll; but only for information concerning the facts relevant to the interests of each party in a claim.

5. To the Department of the Treasury for:

(a) Collecting Social Security taxes or as otherwise pertinent to tax and benefit payment provisions of the Act (including SSN verification services);

(b) Investigating the alleged theft, forgery, or unlawful negotiation of Social Security checks;

(c) Determining the Federal tax liability on Social Security benefits pursuant to 26 U.S.C. 6050, as amended by Pub. L. 98–21. The information disclosed will consist of the following:

(1) The aggregate amount of Social Security benefits paid with respect to any individual during any calendar year;

(2) The aggregate amount of Social Security benefits repaid by such individual during such calendar year;

(3) The aggregate reductions under section 224 of the Act in benefits which would otherwise have been paid to such individual during the calendar year on account of amounts received under a worker's compensation act; and

(4) The name and address of such individual; and

(d) Depositing the tax withheld on benefits paid to nonresident aliens in the Treasury (Social Security Trust Funds) pursuant to 26 U.S.C. 871, as amended by Pub. L. 98–21.

6. To the United States Postal Service for investigating the alleged theft or forgery of Social Security checks.

7. To the Department of Justice (DOJ) for:

(a) Investigating and prosecuting violations of the Act to which criminal penalties attach;

(b) Representing the Secretary of HHS; and

(c) Investigating issues of fraud by agency officers or employees, or violation of civil rights.

8. To the Department of State for administering the Act in foreign countries through services and facilities of that agency.

9. To the American Institute of Taiwan for administering the Act in Taiwan through services and facilities of that agency.

10. To the Department of Veterans Affairs (DVA), Philippines Regional Office, for administering the Social Security Act in the Philippines through the services and facilities of that agency.

11. To the Department of Interior for administering the Act in the Trust Territory of the Pacific Islands through services and facilities of that agency.

12. Information necessary to adjudicate claims filed under an international Social Security agreement that the United States has entered into pursuant to section 233 of the Act may be disclosed to a foreign country which is a party to that agreement.

13. To the Office of the President for the purpose of responding to an individual pursuant to an inquiry received from that individual or from a third party on his/her behalf.

14. The Department of Education for determining eligibility of applicants for basic educational opportunity grants.

15. The Bureau of the Census when it performs as a collecting agent or data processor for research and statistical purposes directly relating to this system of records.

16. To the Department of the Treasury, Office of Tax Analysis, for studying the effects of income taxes and taxes on earnings.

17. To the Office of Personnel Management for the study of the relationship of civil service annuities to minimum Social Security benefits, and the effects on the trust fund.

18. To State Social Security Administrators for administering agreements pursuant to section 218 of the Act.

19. To the Department of Energy for its study of the long-term effects of low-level radiation exposure.

20. To contractors under contract to the Social Security Administration (SSA) (or under contract to another agency with funds provided by SSA) for the performance of research and statistical activities directly relating to this system of records.

21. To a congressional office in response to an inquiry from that office made at the request of the subject of a record.

22. To the Department of Labor for conducting statistical studies of the relationship of private pensions and Social Security benefits to prior earnings.

23. In response to legal process or interrogatories relating to the enforcement of an individual's child support or alimony obligations, as required by sections 459 and 461 of the Act.

24. To Federal, State, or local agencies (or agents on their behalf) for administering income maintenance or health maintenance programs (including programs under the Act). Such disclosures include, but are not limited to, release of information to:

(a) RRB for administering provisions of the Railroad Retirement act relating to railroad employment; for administering the Railroad Unemployment Insurance Act and for administering provisions of the Social Security Act relating to railroad employment;

(b) DVA for administering 38 U.S.C. 412, and upon request, for determining eligibility for, or amount of, veterans benefits or verifying other information with respect thereto;

(c) State welfare departments for administering sections 205(c)(2)(B)(i)(II) and 402(a)(25) of the Act requiring information about assigned SSN's for Aid to Families with Dependent Children (AFDC) program purposes and for determining a recipient's eligibility under the AFDC program; and

(d) State agencies for administering the Medicaid program.

25. Upon request, information on the identity and location of aliens may be disclosed to DOJ (Criminal Division, Office of Special Investigations) for the purpose of detecting, investigating and, where appropriate, taking legal action against suspected Nazi war criminals in the United States.

26. To third party contacts (including private collection agencies under contract with SSA) for the purpose of their assisting SSA in recovering overpayments.

27. Information may be disclosed to contractors and other Federal agencies, as necessary, for the purpose of assisting SSA in the efficient administration of its programs. We contemplate disclosing information under the routine use only in situations in which SSA may enter into a contractual or similar agreement with a third party to assist in accomplishing an agency function relating to this system of records.

28. Nontax return information which is not restricted from disclosure by Federal law may be disclosed to the General Services Administration and the National Archives and Records Administration for the purpose of conducting records management studies with respect to their duties and responsibilities under 44 U.S.C. 2904 and 2906, as amended by the National Archives and Records Administration Act of 1984.

29. Information may be disclosed to the Federal Reserve Bank of New York for the purpose of making direct deposit/electronic funds transfer of Social Security benefits to foreign-resident beneficiaries.

30. To DOJ, a court or other tribunal, or another party before such tribunal when:

(a) SSA, any component thereof, or

(b) Any SSA employee in his/her official capacity; or

(c) Any SSA employee in his/her individual capacity where DOJ (or SSA where it is authorized to do so) has agreed to represent the employee; or

(d) The United States or any agency thereof where SSA determines that the litigation is likely to affect the operations of SSA or any of its components,

is a party to litigation or has an interest in such litigation, and SSA determines that the use of such records by DOJ, the court or other tribunal is relevant and necessary to the litigation, provided, however, that in each case, SSA determines that such disclosure is compatible with the purpose for which the records were collected.

Wage and other information which are subject to the disclosure provisions of the Internal Revenue Code (IRC) (26 U.S.C. 6103) will not be disclosed under this routine use unless disclosure is expressly permitted by the IRC.

31. To the Rehabilitation Services Administration (RSA) for use in its program studies of, and development of enhancements for, State vocational rehabilitation programs. These are programs to which applicants or beneficiaries under titles II and or XVI of the Act may be referred. Data released to RSA will not include any personally identifying information (such as names or SSNs).

32. Addresses or beneficiaries who are obligated on loans held by the Secretary of Education or a loan made in accordance with 20 USC 1071, *et. seq.* (the Robert T. Stafford Student Loan Program) may be disclosed to the Department of Education as authorized by Section 489A of the Higher Education Act of 1965.

POLICIES AND PRACTICES FOR STORING, RETRIEVING, ACCESSING, RETAINING AND DISPOSING OF RECORDS IN THE SYSTEM:

STORAGE:

Records are stored in magnetic media (e.g., magnetic tape and magnetic disc) and in microform and paper form.

RETRIEVABILITY:

Records in this system are indexed and retrieved by SSN.

SAFEGUARDS:

Safeguards for automated records have been established in accordance with the HHS Information Resources Management Manual, "Part 6, Automated Information Systems Security Program Handbook." All magnetic tapes and discs are within an enclosure attended by security guards. Anyone entering or leaving this enclosure must have special badges which are issued only to authorized personnel. All microform and paper files are accessible only by authorized personnel and are locked after working hours.

For computerized records, electronically transmitted between SSA's central office and field office locations (including organizations administering SSA programs under contractual agreements), safeguards include a lock/unlock password system, exclusive use of leased telephone lines, a terminal oriented transaction matrix, and an audit trail.

RETENTION AND DISPOSAL:

Primary data storage is on magnetic disc. A new version of the disk file is generated each month based on changes to the beneficiary's record (adjustment in benefit amount, termination, or new entitlements). The prior version is written to tape and retained for 90 days in SSA's main data processing facility and is then sent to a secured storage facility for indefinite retention.

Selected records also are retained on magnetic disc for on-line query purposes. The query files are updated monthly and retained indefinitely. Microform records are disposed of by shredding or the application of heat after periodic replacement of a complete file.

Paper records are usually destroyed after use, by shredding, except where needed for documentation of the claims folder. (See the notice for the Claims Folders System, 09–60–0089 for retention periods and method of disposal for these records).

SYSTEM MANAGER AND ADDRESS:

Director, Office of Claims and Payment Requirements, Office of System Requirements, Social Security Administration, 6401 Security Boulevard, Baltimore, MD 21235.

NOTIFICATION PROCEDURE:

An individual can determine if this system contains a record about him/her by contacting the most convenient Social Security field office and providing his/her name, Social Security claim number (SSN plus alphabetic symbols), address, and proper identification. (Furnishing the SSN is voluntary, but it will make searching for an individual's record easier and prevent delay.)

An individual requesting notification of records in person need not furnish any special documents of identity. Documents he/she would normally carry on his/her person would be sufficient (e.g., credit cards, driver's license, or voter registration card). An individual requesting notification via mail or telephone must furnish a minimum of his/her name, date of birth and address in order to establish identity, plus any additional information specified in this section.

These procedures are in accordance with HHS Regulations 45 CFR part 5b.

RECORD ACCESS PROCEDURES:

Same as notification procedures. Requesters should also reasonably specify the record contents being sought. These procedures are in accordance with HHS Regulations 45 CFR part 5b.

CONTESTING RECORD PROCEDURES:

Same as notification procedures. Requesters should also reasonably identify the record, specify the information they are contesting and state the corrective action sought and the reasons for the correction with supporting justification showing how the record is untimely, incomplete, inaccurate or irrelevant. These procedures are in accordance with HHS Regulations 45 CFR part 5b.

RECORD SOURCE CATEGORIES:

Data for the MBR come primarily from the Claims Folders System (09–60–0089) and/or is furnished by the claimant/beneficiary at the time of filing for benefits, via the application form and necessary proofs, and during the period of entitlement when notices of events such as changes of address, work, marriage, are given to the SSA by the beneficiary; and from States regarding HI third party premium payment/buy-in cases.

SYSTEMS EXEMPTED FROM CERTAIN PROVISIONS OF THE ACT:

None.

09–60–0103

SYSTEM NAME:

Supplemental Security Income Record (SSR), HHS/SSA/OSR.

SECURITY CLASSIFICATION:

None.

SYSTEM LOCATION:

Social Security Administration, Office of Systems Operations, 6401 Security Boulevard, Baltimore, MD 21235. Records also may be located in Social Security Administration (SSA) Regional and field offices (individuals should consult their local telephone directories for address information).

CATEGORIES OF INDIVIDUALS COVERED BY THE SYSTEM:

This file contains a record for each individual who has applied for

supplemental security income (SSI) payments, including individuals who have requested an advance payment; SSI recipients who have been overpaid; and each essential person associated with an SSI recipient.

CATEGORIES OF RECORDS IN THE SYSTEM:

This file contains data regarding SSI eligibility; citizenship; residence; Medicaid eligibility; eligibility for other benefits; alcoholism or drug addiction data, if applicable (disclosure of this information may be restricted by 21 U.S.C. 1175 and 42 U.S.C. 290dd–3 and ee–3); income data; resources; payment amounts, including overpayment amounts and date and amount of advance payments; living arrangements; case folder location data; appellate decisions, if applicable; Social Security numbers (SSN's) used to identify a particular individual), if applicable; information about representative payees, if applicable; and a history of changes to any of the persons who have applied for SSI payments. For eligible individuals, the file contains basic identifying information, income and resources (if any) and, in conversion cases, the State welfare number.

AUTHORITY FOR MAINTENANCE OF THE SYSTEM:

Sec. 1602, 1611, 1612, 1613, 1614, 1615, 1616, 1631, 1633, and 1634 of Title XVI of the Social Security Act (the Act).

PURPOSES(S):

SSI records begin in Social Security field offices where an individual or couple files an application for SSI payments. The application contains data which may be used to prove the identity of the applicant, to determine his/her eligibility for SSI payments and, in cases where eligibility is determined, to compute the amount of the payment. Information from the application, in addition to data used internally to control and process SSI cases, is used to create the SSR. The SSR also is used as a means of providing a historical record of all activity on a particular individual's or couple's record.

In addition, statistical data are derived from the SSR for actuarial and management information purposes.

ROUTINE USES OF RECORDS MAINTAINED IN THE SYSTEM, INCLUDING CATEGORIES OF USERS AND THE PURPOSES OF SUCH USES:

Disclsoure may be made for routine uses as indicated below:

1. To the Department of the Treasury to prepare SSI and Energy Assistance checks.

2. To the States to establish the minimum income level for computation of State supplements.

3. To the following Federal and State agencies to prepare information for verification of benefit eligibility under section 1631(e) of the Act: Bureau of Indian Affairs; Office of Personnel Management; Department of Agriculture; Department of Labor; Immigration and Naturalization service; Internal Revenue Service (IRS); Railroad Retirement Board (RRB); State Pension Funds, State Welfare Offices; State Worker's Compensation; Department of Defense; United States Coast Guard; and the Department of Veterans Affairs (DVA).

4. To a congressional office in response to an inquiry from that office made at the request of the subject of a record.

5. To State crippled children's agencies (or other agencies providing services to disabled children) to identify title XVI eligibles under the age of 16 for the consideration of rehabilitation services in accordance with section 1615 of the Act.

6. To contractors under contract to SSA or under contract to another agency with funds provided by SSA for the performance of research and statistical activities directly relating to this system of records.

7. To State audit agencies for auditing State supplementation payments and Medicaid eligibility consideration.

8. To State agencies to effect and report the fact of Medicaid eligibility of title XVI recipients in the jurisdiction of those States which have elected Federal determinations of Medicaid eligibility of title XVI eligibles and to assist the States in administering the Medicaid program.

9. To State agencies to identify title XVI eligibles in the jurisdiction of those States which have not elected Federal determinations of Medicaid eligibility in order to assist those States in establishing and maintaining Medicaid rolls and in administering the Medicaid program.

10. To State agencies to enable those which have elected Federal administration of their supplementation programs to monitor changes in applicant/recipient income, special needs, and circumstances.

11. To State agencies to enable those which have elected to administer their own supplementation programs to identify SSI eligibles in order to determine the amount of their monthly supplementary payments.

12. To State agencies to enable them to assist in the effective and efficient administration of the SSI program.

13. To State agencies to enable those which have an agreement with the Secretary of Health and Human Services (HHS) to carry out their functions with respect to interim Assistance Reimbursement pursuant to Section 1631(g) of the Act.

14. To State agencies to enable them to locate potentially eligible individuals and to make eligibility determinations for extensions of social services under the provisions of title XX of the Act.

15. To State agencies to assist them in determining initial and continuing eligibility in their income maintenance programs and for investigating and prosecution of conduct subject to criminal sanctions under these programs.

16. To the United States Postal Service for investigating the alleged theft, forgery or unlawful negotiation of SSI checks.

17. To the Department of the Treasury for investigating the alleged theft, forgery or unlawful negotiation of SSI checks.

18. To the Department of Education for determining the eligibility of applicants for Basis Educational Opportunity Grants.

19. To Federal, State or local agencies (or agents on their behalf) for administering cash or noncash income maintenance or health maintenance programs (including programs under the Act). Such disclosures include, but are not limited to, release of information to:

(a) The DVA upon request for determining eligibility for, or amount of, VA benefits or verifying other information with respect thereto;

(b) The RRB for administering the Railroad Unemployment Insurance Act;

(c) State agencies to determine eligibility for Medicaid;

(d) State agencies to locate potentially eligible individuals and to make determinations of eligibility for the food stamp program; and

(e) State agencies to administer energy assistance to low income groups under programs for which the States are responsible.

20. To IRS, Department of the Treasury, as necessary, for the purpose of auditing SSA's compliance with safeguard provisions of the Internal Revenue Code of 1986, as amended.

21. To the Office of the President for the purpose of responding to an individual pursuant to an inquiry received from that individual or a third party on his/her behalf.

22. Upon request, information on the identity and location of aliens may be disclosed to the DOJ (Criminal Division, Office of Special Investigations) for the purpose of detecting, investigating and, where necessary, taking legal action against suspected Nazi war criminals in the United States.

23. To third party contacts (including private collection agencies under contract with SSA) for the purpose of their assisting SSA in recovering overpayments.

24. Information may be disclosed to contractors and other Federal agencies, as necessary, for the purpose of assisting SSA in the efficient administration of its programs. We contemplate disclosing information under this routine use only in situations in which SSA may enter a contractual or similar agreement with a third party to assist in accomplishing an agency function relating to this system of records.

25. Nontax return information which is not restricted from disclosure by Federal law may be disclosed to the General Services Administration and the National Archives and Records Administration for the purpose of conducting records management studies with respect to their duties and responsibilities under 44 U.S.C. 2904 and 2906, as amended by the National Archives and Records Administration Act of 1984.

26. To the DOJ, a court or other tribunal, or another party before such tribunal when:

(a) SSA, any component thereof, or

(b) Any SSA employee in his/her official capacity; or

(c) Any SSA employee in his/her individual capacity where DOJ (or SSA where it is authorized to do so) has agreed to represent the employee; or

(d) The United States or any agency thereof where SSA determines that the litigation is likely to affect the operations of SSA or any of its components.

is a party to litigation or has an interest in such litigation, and SSA determines that the use of such records by DOJ, the court, or other tribunal, is relevant and necessary to the litigation, provided, however, that in each case, SSA determines that such disclosure is compatible with the purpose for which the records were collected.

Wage and other information which are subject to the disclosure provisions of the Internal Revenue Code (IRC) (26 U.S.C. 6103) will not be disclosed under this routine use unless disclosure is expressly permitted by the IRC.

27. To representative payees, when the information pertains to individuals for whom they serve as representative payees, for the purpose of assisting SSA in administering its representative payment responsibilities under the Act and assisting the representative payees in performing their duties as payees, including receiving and accounting for benefits for individuals for whom they serve as payees.

28. To third party contacts in situations where the party to be contacted has, or is expected to have, information relating to the individual's capability to manage his/her affairs or his/her eligibility for, or entitlement to, benefits under the Social Security program when:

(a) The individual is unable to provide information being sought. An individual is considered to be unable to provide certain types of information when:

(1) He/she is incapable or of questionable mental capability;

(2) He/she cannot read or write;

(3) He/she cannot afford the cost of obtaining the information;

(4) He/she has a hearing impairment, and is contacting SSA by telephone through a telecommunications relay system operator;

(5) A language barrier exists; or

(6) The custodian of the information will not, as a matter of policy, provide it to the individual; or

(b) The data are needed to establish the validity of evidence or to verify the accuracy of information presented by the individual, and it concerns one or more of the following:

(1) His/her eligibility for benefits under the Social Security program;

(2) The amount of his/her benefit payment; or

(3) Any case in which the evidence is being reviewed as a result of suspected fraud, concern for program integrity, quality appraisal, or evaluation and measurement activities.

29. To the Rehabilitation Services Administration (RSA) for use in its program studies of, and development of enhancements for, State vocational rehabilitation programs. These are programs to which applicants or beneficiaries under titles II and or XVI of the Act may be referred. Data released to RSA will not include any personally identifying information (such as names or SSNs).

30. Addresses of beneficiaries who are obligated on loans held by the Secretary of Education or a loan made in accordance with 20 USC 1071, *et. seq.* (the Robert T. Stafford Student Loan Program) may be disclosed to the Department of Education as authorized by Section 489A of the Higher Education Act of 1965.

POLICIES AND PRACTICES FOR STORING, RETRIEVING, ACCESSING, RETAINING AND DISPOSING OF RECORDS IN THE SYSTEM:

STORAGE:

Records are maintained in magnetic media (e.g., magnetic media (e.g., magnetic tape) and in microform.

RETRIEVABILITY:

Records are indexed and retrieved by SSN.

SAFEGUARDS:

System security for automated records has been established in accordance with the HHS Information Resources Management Manual, Part 6, Automated Information System Security Program Handbook. This includes maintaining all magnetic tapes and magnetic discs within an enclosure attended by security guards. Anyone entering or leaving that enclosure must have special badges which are only issued to authorized personnel. All authorized personnel having access to the magnetic records are subject to the penalties of the Privacy Act. The microfiche are stored in locked cabinets, and are accessible to employees only on a need-to-know basis. All SSR State Data Exchange records are protected in accordance with agreements between SSA and the respective States regarding confidentiality, use, and redisclosure.

RETENTION AND DISPOSAL:

Original input transaction tapes received which contain initial claims and posteligibility actions are retained indefinitely although these are processed as received and incorporated into processing tapes which are updated to the master SSR tape file on a monthly basis. All magnetic tapes appropriate to SSI information furnished to specified Federal, State, and local agencies for verification of eligibility for benefits and under section 1631(e) are retained, in accordance with the Privacy Act accounting requirements, for at least 5 years or the life of the record, whichever is longer.

SYSTEM MANAGER(S) AND ADDRESS:

Director, Office of Claims and Payment Requirements, Office of Systems Requirements, Social Security Administration, 6401 Security Boulevard, Baltimore, MD 21235.

NOTIFICATION PROCEDURE:

An individual can determine if this system contains a record about him/her by writing to or visiting any Social Security field office and providing his or her name and SSN. (Individuals should consult their local telephone directories for Social Security office address and telephone information.) (Furnishing the SSN is voluntary, but it will make searching for an individual's record easier and prevent delay.

An individual requesting notification of records in person need not furnish any special documents of identity. Documents he/she would normally

carry on his/her person would be sufficient (e.g., credit cards, driver's license, or voter registration card). An individual requesting notification via mail or telephone must furnish a minimum of his/her name, date of birth and address in order to establish identity, plus any additional information specified in this section.

These procedures are in accordance with HHS regulations 45 CFR part 5b.

RECORD ACCESS PROCEDURES:

Same as notification procedures. Requesters should also reasonably specify the record contents being sought. An individual who requests notification of, or access to, a medical record shall, at the time he or she makes the request, designate in writing a responsible representative who will be willing to review the record and inform the subject individual of its contents at the representative's discretion.

A parent or guardian who requests notification of, or access to, a minor's medical record shall at the time he or she makes the request designate a physician or other health professional (other than a family member) who will be willing to review the record and inform the parent or guardian of its contents at the physician's or health professional's discretion. These procedures are in accordance with HHS regulations 45 CFR part 5b.

CONTESTING RECORD PROCEDURES:

Same as notification procedures. Requesters should also reasonably identify the record, specify the information they are contesting and state the corrective action sought and the reasons for the correction with supporting justification showing how the record is incomplete, untimely, inaccurate or irrelevant. These procedures are in accordance with HHS regulations 45 CFR part 5b.

RECORD SOURCE CATEGORIES:

Data contained in the SSR are obtained for the most part from the applicant for SSI payments and are derived from the Claims Folders System (09–60–0089). The States also provide data affecting the SSR (State Data Exchange Files).

SYSTEMS EXEMPTED FROM CERTAIN PROVISIONS OF THE ACT:

None.

[FR Doc. 93–15307 Filed 6–29–93; 8:45 am]

BILLING CODE 4190–29–M

DEPARTMENT OF THE INTERIOR

Bureau of Land Management, Alaska

[AK–967–4230–15–P]

Notice for Publication

AA–6646–A

Alaska Native Claims Selection

In accordance with Departmental regulation 43 CFR 2650.7(d), notice is hereby given that a decision to issue conveyance under the provisions of Sec. 14(a) of the Alaska Native Claims Settlement Act of December 18, 1971, 43 U.S.C. 1601, 1611, will be issued to Akhiok-Kaguyak, Inc. for approximately 690 acres. The lands involved are in the vicinity of Akhiok, Alaska.

Seward Meridian, Alaska

T. 35 S., R. 31 W.,
Secs. 4 and 9.

A notice of the decision will be published once a week, for four (4) consecutive weeks, in the Kodiak Daily Mirror. Copies of the decision may be obtained by contacting the Alaska State Office of the Bureau of Land Management, 222 West Seventh Avenue, #13, Anchorage, Alaska 99513–7599 ((907) 271–5960).

Any party claiming a property interest which is adversely affected by the decision, an agency of the Federal government or regional corporation, shall have until July 30, 1993 to file an appeal. However, parties receiving service by certified mail shall have 30 days from the date of receipt to file an appeal. Appeals must be filed in the Bureau of Land Management at the address identified above, where the requirements for filing an appeal may be obtained. Parties who do not file an appeal in accordance with the requirements of 43 CFR part 4, subpart E, shall be deemed to have waived their rights.

Copy Furnished to: Director (311), Room 3653, Main Interior Building.

Terry R. Hassett,

Chief, Branch of KCS Adjudication.

[FR Doc. 93–15358 Filed 6–29–93; 8:45 am]

BILLING CODE 4310–JA–P

[AK–964–4230–05–P]

Alaska Native Claims Selection

In accordance with Departmental regulation 43 CFR 2650.7(d), notice is hereby given that a decision to issue conveyance under the provisions of Sec. 14(e) of the Alaska Native Claims Settlement Act of December 18, 1971, 43 U.S.C. 1601, 1613(e), will be issued to Arctic Slope Regional Corporation for approximately 28,004 acres. The lands involved are within Tps. 4 N., Rs. 6 thru 8 E., Umiat Meridian, Alaska.

A notice of the decision will be published once a week, for four (4) consecutive weeks, in The North Slope Sentinel. Copies of the decision may be obtained by contacting the Alaska State Office of the Bureau of Land Management, 222 West Seventh Avenue, #13, Anchorage, Alaska 99513–7599 ((907) 271–5960).

Any party claiming a property interest which is adversely affected by the decision, an agency of the Federal government or regional corporation, shall have until July 30, 1993 to file an appeal. However, parties receiving service by certified mail shall have 30 days from the date of receipt to file an appeal. Appeals must be filed in the Bureau of Land Management at the address identified above, where the requirements for filing an appeal may be obtained. Parties who do not file an appeal in accordance with the requirements of 43 CFR part 4, subpart E, shall be deemed to have waived their rights.

Carolyn A. Bailey,

Lead Land Law Examiner, Branch of Doyon/Northwest Adjudication.

[FR Doc. 93–15341 Filed 6–29–93; 8:45 am]

BILLING CODE 4310–JA–P

[NV–930–4210–03; N–56419]

Realty Action; Nevada

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice.

SUMMARY: The following described lands in Elko County, Nevada have been examined and found suitable for classification for lease/purchase under the Recreation and Public Purposes Act (R&PP) of June 14, 1926, as amended (43 U.S.C. 869 *et seq.*). The lands will not be offered for lease until at least 60 days after the date of publication of this Notice in the **Federal Register**.

Mount Diablo Meridian, Nevada

T. 47 N., R. 64 E.,
Sec. 1, S½NW¼NW¼SW¼SE¼.
Containing 1.25 acres, more or less.

FOR FURTHER INFORMATION CONTACT: Detailed information concerning this action is available for review at the Bureau of Land Management, Wells Resource Area, 3900 E. Idaho Street, Elko, Nevada.

SUPPLEMENTARY INFORMATION: Assemblies of God Church intends to use the land to construct a Church

Facility and Day Care Center. The lease/patent, when issued, will be subject to the provisions of the Recreation and Public Purposes Act, applicable regulations of the Secretary of the Interior, and will contain the following reservations to the United States:

1. A right-of-way thereon for ditches and canals constructed by the authority of the United States; Act of August 30, 1890 (43 U.S.C. 945).

2. All mineral deposits in the land so patented, and to it, or persons authorized by it, the right to prospect for, mine and remove such deposits from the same under applicable laws and regulations to be established by the Secretary of the Interior.

The land is not required for any Federal purpose. The classification and the lease/conveyance are consistent with the Bureau's planning for the area.

Upon publication of this Notice of Realty Action in the **Federal Register**, the subject lands will be segregated from all forms of appropriation under the public land laws, including the general mining laws, except for lease/conveyance under the Recreation and Public Purposes Act and leasing under the mineral leasing laws. The segregative effect shall terminate upon issuance of a patent or as specified in an opening order to be published in the **Federal Register**, whichever occurs first.

For a period of 45 days from the date of publication of this notice in the **Federal Register**, interested parties may submit comments to the District Manager, Elko District Office, P.O. Box 831, Elko, NV 89803.

Any objections will be evaluated by the State Director, who may sustain, vacate or modify this realty action. In the absence of timely filed objections, the classification of the lands described in this Notice will become effective 60 days from the date of publication in the **Federal Register**.

Dated: June 18, 1993.

Rodney Harris,

District Manager.

[FR Doc. 93–15320 Filed 6–29–93; 8:45 am]

BILLING CODE 4310–HC–M

[NV–930–4210–05; N–52356]

Notice of Realty Action; Nevada

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice.

SUMMARY: The following land in Elko County, Nevada has been examined and identified as suitable for disposal by direct sale, including the mineral estate with no known value, under section 203 and section 209 of the Federal Land Policy and Management Act (FLPMA) of October 21, 1976 (43 U.S.C. 1713 and 1719) at no less than fair market value:

Mount Diablo Meridian, Nevada

T. 46 N., R. 69 E.,
Sec. 2, E½NE¼SE¼NW¼.
Comprising 5 acres, more or less.

The above described land is being offered as a direct sale to Potomac Corporation dba Victor Land & Livestock. The land will not be offered for sale until at least 60 days after the date of publication of this notice in the **Federal Register**.

FOR FURTHER INFORMATION CONTACT: Detailed information concerning this action is available for review at the Bureau of Land Management, Wells Resource Area, 3900 E. Idaho Street, Elko, Nevada.

SUPPLEMENTARY INFORMATION: The lands have been identified as suitable for disposal by the Wells Resource Management Plan. The proposal has been reviewed and approved by the Elko County Planning Commission. The land is not needed for any resource program and is not suitable for management by the Bureau or another Federal department or agency. The locatable and salable mineral estates have been determined to have no known value. The land is prospectively valuable for oil and gas and geothermal minerals. Therefore, the mineral estate, excluding oil and gas and geothermal minerals, will be conveyed simultaneously with the sale of the surface estate. Acceptance of the direct sale offer will constitute an application to purchase the mineral estate having no known value. A nonrefundable fee of $50.00 will be required with the purchase money. Failure to submit the purchase money and the nonrefundable filing fee for the mineral estate within the time frame specified by the authorized officer will result in cancellation of the same. Upon publication of this Notice of Realty Action in the **Federal Register**, the lands will be segregated from all forms of appropriation under the public land laws, including the mining laws but not the mineral leasing laws or disposals pursuant to sections 203 and 209 of FLPMA. The segregation shall terminate upon issuance of a patent or other document of conveyance, upon publication in the **Federal Register** of a Notice of Termination of Segregation, or 270 days from date of this publication, which ever occurs first.

The patent, when issued, will contain the following reservations to the United States:

1. A right-of-way thereon for ditches and canals constructed by the authority of the United States, Act of August 30, 1890, (43 U.S.C. 945).

2. Oil and gas and geothermal minerals. A more detailed description of this reservation, which will be included in the patent document, is available for review at the Elko District office.

For a period of 45 days from the date of publication of this notice in the **Federal Register**, interested parties may submit comments to the Elko District Office, Bureau of Land Management, P.O. Box 831, Elko, NV 89803. Any adverse comments will be evaluated by the State Director, who may sustain, vacate or modify this realty action and issue a final determination. In the absence of timely filed objections, this realty action will become a final determination of the Department of the Interior.

Dated: June 18, 1993.

Rodney Harris,

District Manager,

[FR Doc. 93–15321 Filed 6–29–93; 8:45 am]

BILLING CODE 4310–HC–M

[NV–930–92–4210–05; N–57477]

Realty Action; Non-Competitive Sale of Public Lands in Clark County, NV

AGENCY: Bureau of Land Management, Interior.

ACTION: Purchase of public lands in Clark County.

SUMMARY: The following described public land in the City of North Las Vegas, Clark County, Nevada, has been determined to be suitable for sale utilizing non-competitive procedures, at not less than the fair market value. Authority for the sale are sections 203 and 209 of Public Law 94–579, the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1713 and 43 U.S.C. 1719).

Mount Diablo Meridian, Nevada

T. 19 S., R. 61 E.,
Sec. 13: N½, NE¼SW¼, SE¼.
Sec. 14: N½.
Sec. 15: All.
Sec. 16: All.
Sec. 17: All.
Sec. 18: Lots 5 to 20, inclusive.
Sec. 19: Lots 5 to 18, inclusive.
Sec. 20: All.
Sec. 21: N½.
Sec. 23: N½NE¼, SW¼NE¼, E½NW¼.
Sec. 24: N½, NE¼SW¼, N½SE¼, SW¼SE¼.
T. 19 S., R. 62 E.,
Sec. 18: Lots 1 to 4, inclusive, E½, E½W½.
Sec. 19: Lots 1 to 4, inclusive, E½, E½W½.

Sec. 20: All.

Aggregating 7,534.27 acres (gross).

This parcel of land, situated in Clark County is being offered as a direct sale to the City of North Las Vegas and is not required for any Federal purposes. The sale is consistent with the Bureau's planning system. The sale of this parcel would be in the public interest.

In the event of a sale, conveyance of the available mineral interests will occur simultaneously with the sale of the land. Acceptance of a direct sale offer will constitute an application for conveyance of those mineral interests. The applicant will be required to pay a $50.00 non-returnable filing fee for conveyance of the available mineral interests.

The patent, when issued, will contain the following reservations to the United States:

1. A right-of-way thereon for ditches and canals constructed by the authority of the United States, Act of August 30, 1890, 26 Stat. 391, 43 U.S.C. 945.

2. Oil, gas, sodium, and potassium.

and will be subject to:

1. An easement for streets, roads and public utilities in accordance with the transportation plan for Clark County/the City of North Las Vegas.

2. Those rights for railroad purposes which have been granted to the Los Angeles and Salt Lake Railroad Company by Permit No. CC–0360 under the Act of March 3, 1875, 18 Stat. 482, 43 U.S.C. 934–939.

3. Those rights for road purposes which have been granted to the Corps of Engineers by Permit No. Nev–045137 under the Act of January 13, 1916, 44 LD 513.

4. Those rights for power line purposes which have been granted to Nevada Power Company by Permit No. NEV–061985 and Nev–067348 under the Act of February 15, 1901, 31 Stat. 790, 43 U.S.C. 959.

5. Those rights for material site and road purposes which have been granted to the Nevada Department of Transportation by Permit No. N–32236 under the Act of August 27, 1958, 72 Stat. 916, 23 U.S.C. 317(A).

6. Those rights for power line purposes which have been granted to Nevada Power Company by Permit No. N–39815, N–42592 and N–49722 under the Act of October 21, 1976, 90 Stat. 2776, 43 U.S.C. 1761. Publication of this notice in the **Federal Register** shall establish June 24, 1993, as the date the above described land will be segregated from all forms of appropriation under the public land laws, including the general mining laws. This segregation will terminate upon issuance of a patent or 270 days from the date of segregation, whichever occurs first.

Dated: June 16, 1993.

Ben F. Collins,

District Manager, Las Vegas, NV.

[FR Doc. 93–15342 Filed 6–29–93; 8:45 am]

BILLING CODE 4310–HC–M

[NV–930–4210–05; N–53194]

Realty Action: Direct Sale of Public Lands in Clark County, NV; Correction

AGENCY: Bureau of Land Management, Interior.

ACTION: Corrected NORA.

SUMMARY: The Notice of Realty Action published in the **Federal Register** on February 25, 1993 (58 FR 11417; FR Doc. 93–4371) is hereby corrected as follows: Second column, sixth line, delete "exchange", insert "direct sale".

Dated: June 22, 1993.

Ben F. Collins,

District Manager, Las Vegas, NV.

[FR Doc. 93–15369 Filed 6–29–93; 8:45 am]

BILLING CODE 4310–HC–M

[NV–930–03–4210–05; N–51812]

Realty Action, Advertisement of Public Land To Be Sold by the Bureau of Land Management (BLM) by Direct Sale Authority to Wilkinson Ranches, Inc., P.O. Box 74, McDermitt, NV 89421.

SUMMARY: Notice is hereby given that pursuant to the Act of October 21, 1976, (43 U.S.C. 1713; sec. 203), the BLM will sell a parcel of public land at fair market value to Wilkinson Ranches, Inc.

The following describes the public land to be disposed of:

Mount Diablo Meridian, Nevada

T. 48 N., R. 38 E., Sec. 34, Lot 5, containing 56.41 acres.

DATE: July 30, 1993.

FOR FURTHER INFORMATION CONTACT: District Realty Specialist Hal Green, c/o Bureau of Land Management, 705 East 4th Street, Winnemucca, NV 89445, Phone: (702) 623–1500.

SUPPLEMENTARY INFORMATION: The public land is being offered for sale to the Wilkinson Ranches, Inc., by the BLM in order to facilitate the efficient use and operation of private land owned by the private party. The parcel of public land is bordered on all sides by private land.

This sale action by the BLM is in accordance with land use plans, programs, policy, and guidelines developed by the U.S. Department of the Interior, BLM.

Both surface and subsurface (mineral) estates would be disposed of.

Publication of this notice in the **Federal Register** shall segregate the public land to the extent that the land would not be subject to appropriation under the public land laws including the mining laws. Any subsequent application will not be considered as filed and would be returned to the applicant. The segregative effect of this Notice of Realty Action shall terminate upon issuance of the patent or transfer document for the land described above or upon publication of a notice in the **Federal Register** of a termination of the segregation or 270 days from the date of the publication of this notice, whichever occurs first.

Reservations to the United States Government

The patent, when issued, will contain the following reservation:

1. Rights-of-way for ditches and canals constructed under the authority of the United States, Act of August 30, 1890, 26 Stat. 391; 43 U.S.C. 945.

Other Information

For a period of 45 days from the date of publication of this notice, interested parties may submit comments to the District Manager, Bureau of Land Management, Winnemucca District Office, 705 East 4th Street, Winnemucca, NV 89445.

In the absence of comment or objection to the Bureau's action, this Notice of Realty Action will become the final determination of the Department of the Interior, BLM.

Dated: June 21, 1993.

Ron Wenker,

District Manager, Winnemucca.

[FR Doc. 93–15327 Filed 6–29–93; 8:45 am]

BILLING CODE 4310–HC–M

[OR–092–4210–04: GP3–282; OROR 48077]

Realty Action; Exchange of Public Lands; Lane, Linn, Polk and Yamhill Counties, OR

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of realty action—exchange of public lands in Lane, Linn Polk and Yamhill Counties, Oregon.

SUMMARY: The following described public lands are being considered for transfer out of Federal ownership by exchange under section 206 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1716):

Willamette Meridian, Oregon

T. 8 S., R. 6 W.

Sec. 7: W½NW¼, NW¼SW¼
Sec. 17: W½NE¼, NW¼
T. 8 S., R. 7 W.
Sec. 8: SW¼NE¼, W½SE¼
Sec. 15: SE¼SE¼
Sec. 17: N½NE¼, NE¼NW¼
T. 16 S., R. 1 W.
Sec. 5: NW¼NW¼
T. 16 S., R. 2 W.
Sec. 1: SW¼SW¼
Sec. 3: Lots 1–4, SE¼NE¼, SW¼NW¼, NE¼SW¼, SE¼SE¼
Sec. 11: NE¼NE¼
T. 16 S., R. 2 E.
Sec. 24: NW¼SW¼
T. 17 S., R. 2 W.
Sec. 7: Lot 3
T. 17 S., R. 8 W.
Sec. 9: Lots 1–6, NW¼NE¼
T. 18 S., R. 1 E.
Sec. 7: All
T. 18 S., R. 1 W.
Sec. 1: All
T. 21 S., R. 1 W.
Sec. 31: Tract 37

Containing 2732.97 acres, more or less, in Lane, Linn and Polk Counties.

In addition, reserved Federal timber interests in the following lands located in Yamhill County are being considered for transfer out of Federal ownership by exchange under section 206 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1716):

Willamette Meridian, Oregon

T. 3 S., R. 6 W.
Sec. 22: SE¼NE¼, NE¼SE¼
Sec. 23: E½NW¼

In exchange for these lands, the United States will acquire the following described lands from Willamette Industries, Inc.:

Willamette Meridian, Oregon

T. 15 S., R. 7 W., W.M.
Sec. 14: All
Sec. 22: All
Sec. 24: All
Sec. 26: All
T. 16 S., R. 7 W., W.M.
Sec. 20: Portion of Lot 10 and SW¼SW¼ lying west of Highway 36
T. 16 S., R. 8 W., W.M.
Sec. 35: SW¼, N½SW¼SE¼, portion of the NE¼SE¼ and SE¼SE¼ (tax lot 16–08–35–00–00200 and part of tax lot 16–08–36–00–01700)
Sec. 36: Portion of Lot 12 (balance of tax lot 16–08–36–00–01700)

Containing 2779.72 acres, more or less, in Lane County.

The purpose of the exchange is to improve the resource management program of the Bureau of Land Management and the property management program of Willamette Industries, Inc. The public lands to be exchanged are relatively isolated parcels, in some cases lacking public access. The private lands being offered have important timber, fisheries, wildlife habitat and recreation values. These lands will be managed for multiple use along with the adjoining public lands. The public interest will be well served by making this exchange. The final determination on the exchange will await completion of an environmental assessment.

The value of the lands to be exchanged is approximately equal, and the acreage will be adjusted to bring the values as close as possible upon completion of the final appraisal of the lands. Full equalization of values will be achieved by payment to the United States of funds in an amount not to exceed 25 percent of the total value of the public land to be transferred.

The exchange will be subject to:

1. All valid existing rights, including any right-of-way, easement, permit or lease of record.

2. A reservation to the United States of a right-of-way for ditches and canals constructed by authority of the United States under the Act of August 30, 1890 (43 U.S.C. 945).

3. A reservation to the United States of all mineral materials subject to disposition under authority of the Materials Act of 1947, as amended (30 U.S.C. 601, 602) in and upon the Southeast quarter of the Southeast quarter of Section 15. T. 8 S., R. 7 W., W.M.

4. A reservation to Bohemia Inc. of all ores and minerals of any nature whatsoever in and upon the Northwest quarter of the Northeast quarter of Section 14, Township 15 South, Range 7 West, Willamette Meridian, Lane County, Oregon, except for all geothermal steam and heat, oil shale, coal, lignite, and oil and gas, including coal seam gas.

Publication of this notice in the **Federal Register** segregates the public land, described above, from appropriation under the public land laws, including the mining laws, but not from exchange pursuant to Section 206 of the Federal Land Policy and Management Act of 1976. The segregative effect of this notice will terminate upon issuance of patent or in two years from the date of this publication, whichever occurs first.

DATES: On or before August 16, 1993, interested parties may submit comments to the Eugene District Manager at the address shown below.

ADDRESSES: Detailed information concerning this exchange is available from the Eugene District Office, P.O. Box 10226 (2890 Chad Drive), Eugene, Oregon 97440.

FOR FURTHER INFORMATION CONTACT: Ronald Wold, Eugene District Office, at (503) 683–6403.

Dated: June 24, 1993.

Bonnie Hogan,

Acting District Manager.

[FR Doc. 93–15361 Filed 6–29–93; 8:45 am]

BILLING CODE 4310–33–M

[ID–943–4210–06; IDI–15317, IDI–15636, IDI–15620]

Proposed Continuation of Withdrawals; Idaho

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice.

SUMMARY: The Bureau of Land Management Proposes that 825.77 acres for withdrawals for the Nampa Rod and Gun Club, Powersite Reserve No. 724 and Powersite Reserve No. 21 continue for an additional 20 years. The lands are still needed for rifle range and waterpower development purposes. The 100.00 acres for the Gun Club will remain closed to surface entry and mining and the 725.77 acres for the powersite reserves will remain closed to surface entry. All of the lands have been and would remain open to mineral leasing.

EFFECTIVE DATE: Comments should be received within 90 days of the date of publication of this notice.

FOR FURTHER INFORMATION CONTACT: Larry R. Lievsay, Idaho State Office, BLM, 3380 Americana Terrace, Boise, Idaho 83706, 208–384–3166.

The Bureau of Land Management proposes that the existing land withdrawals made by the Executive Orders dated June 28,1 937, December 6, 1919 and July 2, 1910 be continued for a period of 20 years pursuant to section 204 of the Federal Land Policy and Management Act of 1976, 90 Stat. 2751; 43 U.S.C. 1714, insofar as they affect the following described land:

Boise Meridian

IDI–15317 (E.O. 6/28/37, Nampa Rod and Gun Club)
T. 2 N., R. 2 W.,
Sec 26, S½SW¼NW¼ and W½SW¼.
IDI–15636 (E.O. 7/2/10, Powersite Reserve No. 21)
T. 7 N., R. 2 E.,
Sec. 10, lots 1 and 2;
Sec. 11, lots 4 and 5;
Sec. 14, lots 1, 2 and 4 and NW¼SW¼;
Sec. 15, lots 1 to 5 inclusive;
Sec. 22, NE¼NE¼;
Sec. 23, lot 10;
Sec. 32, lots 3, 4 and 8 and N½SE¼;

Sec. 33, lots 1 and 2.
IDI–15620 (E.O. 12/6/19, Powersite Reserve No. 724)
T. 9 N., R. 44 E.,
Sec. 32, NW¼NW¼.

The areas described aggregate 825.77 acres in Canyon, Fremont and Boise Counties.

The withdrawals are essential for protection of the Nampa Rod and Gun Club rifle range and waterpower purposes. The existing withdrawal for the Gun Club closes the described land to surface entry and mining. The withdrawals for the powersite reserves close the land to surface entry, only. No change in the segregative effect or use of the land is proposed by this action.

For a period of 90 days from the date of publication of this notice, all persons who wish to submit comments in connection with the proposed withdrawal continuations may present their views in writing to the Idaho State Director at the above address.

The authorized officer of the Bureau of Land Management will undertake such investigations as necessary to determine the existing and potential demand for the land and its resources. A report will also be prepared for consideration by the Secretary of the Interior, the President, and Congress, who will determine whether or not the withdrawals will be continued; and if so, for how long. The final determination of the withdrawals will be published in the **Federal Register.** The existing withdrawals will continue until such final determination is made.

Dated: June 18, 1993.

William E. Ireland,

Chief, Realty Operations Section.

[FR Doc. 93–15326 Filed 6–29–93; 8:45 am]

BILLING CODE 4310–GG–M

INTERNATIONAL TRADE COMMISSION

[Inv. No. 337–TA–342]

Commission Determination To Review an Initial Determination Terminating the Investigation on the Basis of a Settlement Agreement

In the Matter of certain circuit board testers.

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined to review the initial determination (ID) issued in the above-captioned investigation by the presiding administrative law judge (ALJ) on May 12, 1993. Commission review was prompted by concerns about provisions of the settlement providing for retention of confidential business information (CBI) of non-parties that was obtained under the Commission's protective order.

ADDRESSES: Copies of the nonconfidential version of the ID and all other nonconfidential documents filed in connection with this investigation are available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436, telephone 202–205–2000.

FOR FURTHER INFORMATION CONTACT: Jean Jackson, Esq., Office of the General Counsel, U.S. International Trade Commission, telephone 202–205–3104. Hearing-impaired individuals are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202–205–1810.

WRITTEN SUBMISSIONS: By June 30, 1993, the private parties are requested to submit letters from all non-party suppliers of CBI stating either that the suppliers no longer consider their information confidential or that they consent to use of their CBI, as provided in the settlement agreement between the parties, with the understanding that the Commission will not enforce the protective order after the investigation is terminated.

SUPPLEMENTARY INFORMATION: On September 25, 1992, Integri-Test Corp. (Integri-Test) filed a complaint and a motion for temporary relief with the Commission alleging violations of section 337 in the importation and sale of certain circuit board testers allegedly covered by certain claims of Integri-Test's U.S. Letters Patent 4,565,966. The notice of investigation instituting an investigation based on Integri-Test's complaint was published in the **Federal Register** on November 2, 1992. 57 FR 49490. Bath Scientific Ltd. of the United Kingdom and BSL North America of Massachusetts were named as respondents. Pursuant to Commission interim rule 210.24(e)(8) (19 CFR 210.24(e)(8)), the Commission also provisionally accepted Integri-Test's motion for temporary relief.

On January 11, 1993, the presiding ALJ issued an ID denying complainant's motion for temporary relief. The Commission determined to review the ID and to designate the temporary relief phase of the investigation "more complicated." 58 FR 7246 (Feb. 5, 1993). On March 17, 1993, the Commission denied complainant's motion for temporary relief. 58 FR 16202 (March 25, 1993).

On April 29, 1993, the private parties filed a joint motion to terminate the investigation based on a settlement agreement. The Commission investigative attorney (IA) conditionally supported the joint motion. On May 12, 1993, the ALJ granted the motion to terminate with the exception that the Commission would retain jurisdiction over the protective order. On May 24, 1993, complainant filed a petition for review of ID. The IA responded to the petition on June 1, 1993. On June 4, 1993, complainant filed a supplement to its petition for review. No agency or public comments were received.

This action is taken under the authority of section 337 of the Tariff Act of 1930 (19 U.S.C. 1337) and Commission interim rules 210.53 and 210.56 (19 CFR 210.53 and 210.56).

By order of the Commission.

Issued: June 24, 1993.

Paul R. Bardos,

Acting Secretary.

[FR Doc. 93–15429 Filed 6–29–93; 8:45 am]

BILLING CODE 7020–02–P

[Investigation No. 337–TA–339]

Commission Determination To Affirm an Initial Determination Terminating the Investigation on the Basis of a Settlement Agreement

In the Matter of certain commercial food portioners, components thereof, including software, and process thereof.

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined to affirm the initial determination (ID)(Order No. 38) issued in the above-captioned investigation by the presiding administrative law judge (ALJ) on February 19, 1993.

ADDRESSES: Copies of the ID and all other non-confidential documents filed in connection with this investigation are available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436, telephone (202) 205–2000.

FOR FURTHER INFORMATION CONTACT: Jean Jackson, Esq., Office of the General Counsel, U.S. International Trade Commission, telephone 202–205–3104. Hearing-impaired individuals are advised that information on this matter

can be obtained by contacting the Commission's TDD terminal on 202–205–1810.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation on July 22, 1992, based on a complaint filed by Design Systems, Inc. (DSI) of Redmond, Washington. 57 FR 32561 (July 22, 1992). DSI alleged violations of section 337 in connection with the importation and sale of certain commercial food portioners covered by U.S. Letters Patent 4,557,019.

On February 1, 1993, complainant Design Systems, Inc. and the remaining respondents to the investigation—Lumetech, Ltd., Koch Supplies Inc., and Carl Jorgensen Co.— filed a joint motion to terminate the investigation on the basis of a settlement agreement. On February 11, 1993, the Commission investigative attorney filed a response in support of the joint motion.

On February 19, 1993, the presiding ALJ issued an ID granting the joint motion to terminate the investigation based on the settlement agreement. No petitions for review of the ID or agency or public comments were filed. On March 24, 1993, the Commission determined to review the ID on its own motion because of concerns about the document retention provisions contained in the settlement agreement. 58 FR 126846 (March 24, 1993).

On May 13, 1993, the private parties filed a joint submission stating that they did not expect the Commission to enforce the administrative protective order to protect their confidential business information (CBI) after termination of the investigation. The joint submission contained certifications from the non-party suppliers of CBI stating that the non-party suppliers had consented to retention and use of their CBI with the understanding that the Commission would not enforce its administrative protective order after the termination of the investigation.

This action is taken under the authority of section 337 of the Tariff Act of 1930 (19 U.S.C. § 1337) and § 210.56(c) of the Commission's Interim Rules of Practice and Procedure (19 CFR 210.56(c)).

By order of the Commission.

Issued: June 25, 1993.

Paul R. Bardos,

Acting Secretary.

[FR Doc. 93–15425 Filed 6–29–93; 8:45 am]

BILLING CODE 7020–02–P

[Investigation No. 337–TA–337]

Issuance of Limited Exclusion Order and Cease and Desist Orders

In the Matter of certain integrated circuit telecommunication chips and products containing same including dialing apparatus

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the Commission has issued a limited exclusion order and five cease and desist orders in the above-captioned investigation.

FOR FURTHER INFORMATION CONTACT: Judith M. Czako, Esq., or Matthew T. Bailey, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, telephone 202–205–3093 and 202–205–3108, respectively.

SUPPLEMENTARY INFORMATION: The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in § 210.58 of the Commission's Interim Rules of Practice and Procedure (19 CFR 210.58).

The Commission instituted this investigation on April 8, 1992, based on a complaint filed on March 5, 1992, by SGS-Thomson Microelectronics Corporation (ST). 57 FR 11966 (April 8, 1992). ST's complaint alleged a violation of section 337 of the Tariff Act of 1930, as amended, by reason of the importation into the United States, sale for importation, or sale in the United States after importation, of certain integrated circuit telecommunication chips, and products containing such chips, that infringed various claims of U.S. Letters Patent Nos. 4,061,886, 4,315,108, and 4,446,436 owned by ST. The complaint, and the Commission's original notice of investigation, named twelve respondents allegedly engaged in the manufacture, importation, and sale of allegedly infringing integrated circuit telecommunication chips or products containing such chips. Two additional respondents were subsequently added to the investigation. 57 FR 33520 (July 29, 1992); 57 FR 38855 (August 27, 1992).

On March 9, 1993, the presiding administrative law judge (ALJ) issued his final ID finding that there was a violation of section 337 in the manufacture, sale for importation, and importation of certain integrated circuit telecommunication chips. On April 27, 1993, the Commission ordered review of certain portions of the final ID, and requested written submissions addressing certain specific questions raised by the issues under review. Specifically, the Commission ordered review of (1) whether the '108 patent is valid under the enablement and best mode provisions of 35 U.S.C. 112, first paragraph; (2) whether the ALJ properly construed the claims at issue of the '886 patent; (3) whether claims 1 and/or 6 of the '436 patent are invalid as obvious under 35 U.S.C. 103 and, if not, does a violation of section 337 exist as to those claims. The Commission determined not to review the remainder of the ID, which thereby became the determination of the Commission. The Commission also requested written submissions concerning the issues of remedy, the public interest, and bonding. 58 FR 26004 (April 29, 1993).

Having reviewed the record in this investigation, including the written submissions of the parties addressing the specific questions raised by the portions of the ID under review, the Commission made its determinations disposing of the issues on review, and the issues of remedy, the public interest, and bonding.

The Commission determined to (1) revise the ALJ's determination of the level of ordinary skill in the art for the '108 patent to the extent that the determination fails to include all relevant fields of technology; (2) vacate the ALJ's utility analysis of independent claims 6 and 13 of the '886 patent and one sentence in ALJ Finding of Fact number 329; and (3) reverse the ALJ's determination of invalidity with regard to claim 1 of the '436 patent and affirm his determination of invalidity with regard to claim 6 of the '436 patent. Thus, the Commission determined that there is a violation of section 337 of the Tariff Act of 1930 in the unauthorized importation and sale of certain integrated circuit telecommunication chips which infringe claims 1, 2, 3, or 4 of U.S. Letters Patent 4,446,436.

The Commission also determined that the appropriate form of relief is a limited exclusion order prohibiting the importation of infringing integrated circuit telecommunication chips, and prohibiting the importation of certain telephones and telephone sets containing such chips. The Commission further determined to issue cease and desist orders directed to each domestic respondent. Finally, the Commission determined that the public interest factors enumerated in 19 U.S.C. 1337 (d) and (f) do not preclude the issuance of the aforementioned relief, and that the bond during the Presidential review period shall be in the amount of $0.08 per integrated circuit

telecommunication chip or telephone or telephone set containing such chip(s).

Copies of the Commission's orders, the Commission's opinion in support thereof, and all other nonconfidential documents filed in connection with this investigation are or will be available for public inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, telephone 202–205–2000. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on 202–205–1810.

By order of the Commission.

Issued: June 22, 1993.

Paul R. Bardos,

Acting Secretary.

[FR Doc. 93–15430 Filed 6–29–93; 8:45 am]

BILLING CODE 7020–02–P

[Investigation No. 337–TA–346]

Certain Magnetic Switches for Coaxial Transmission Lines and Products Containing the Same; Commission Determination Not To Review an Initial Determination Amending the Complaint and Notice of Investigation to Add Claims

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined not to review an initial determination (ID) (Order No. 7) in the above-captioned investigation amending the complaint and notice of investigation to add allegations of infringement of claims 15, 16, 17 and 18 of U.S. Letters Patent 4,965,542 (the '542 patent).

FOR FURTHER INFORMATION CONTACT: Elizabeth C. Rose, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, telephone (202) 205–3113.

SUPPLEMENTARY INFORMATION: On December 15, 1992, Sector Microwave Industries, Inc. (SMI) and Victor Nelson (Nelson) filed a complaint with the Commission alleging violations of section 337 in the importation and sale of certain magnetic switches for transmission lines and products containing the same, that are allegedly covered by claim 6 of the '542 patent. The notice of investigation instituting an investigation based on the complaint was published in the **Federal Register** on January 21, 1993, naming Com Dev Ltd. of Canada as a respondent. 58 FR 5414.

On June 4, 1993, the presiding administrative law judge issued an ID granting a motion by complainants SMI and Nelson to amend the complaint and notice of investigation to add allegations that respondent also has infringed claims 15, 16, 17 and 18 of the '542 patent. No petitions for review or government agency comments were received.

Copies of the nonconfidential version of the ID and all other nonconfidential documents filed in connection with this investigation are available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, telephone (202) 205–2000. Hearing-impaired persons are advised that information on the matter can be obtained by contacting the Commission's TDD terminal on (202) 205–1810.

This action is taken under the authority of section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and § 210.53(h) of the Commission's Interim Rules of Practice and Procedure (19 CFR. 210.53(h)).

Issued: June 25, 1993.

By order of the Commission.

Paul R. Bardos,

Acting Secretary.

[FR Doc. 93–15423 Filed 6–29–93; 8:45 am]

BILLING CODE 7020–02–P

[Investigation No. 731–TA–515 (Final)]

Commission Determination To Conduct a Portion of the Hearing in Camera

In the Matter of portable electric typewriters from Singapore.

AGENCY: U.S. International Trade Commission.

ACTION: Closure of a portion of a Commission hearing to the public.

SUMMARY: Upon requests of petitioner Brother Industries (USA) and Smith Corona Corporation in the above-captioned final investigation, the Commission has unanimously determined to conduct a portion of its hearing scheduled for June 25, 1993, *in camera*. See Commission rules 201.13 and 201.35(b)(3) (19 CFR 201.13 and 201.35(b)(3)). The remainder of the hearing will be open to the public.

FOR FURTHER INFORMATION CONTACT: Rhonda M. Hughes, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, SW., Washington, DC 20436, telephone (202) 205–3083. Hearing-impaired persons are advised that information on this matter may be obtained by contacting the Commission's TDD terminal on (202) 205–1810.

SUPPLEMENTARY INFORMATION: The Commission believes that Smith Corona and Brother have demonstrated good cause justifying the closure of the hearing, so that Brother may address arguments and assertions made by Smith Corona which are allegedly based on proprietary information and Smith Corona may present proprietary pricing information. The Commission has determined that a full discussion of the domestic industry and of the indicators that it examines in 2 assessing material injury by reason of the subject imports could only take place if at least part of the hearing were held *in camera*. In making this decision, the Commission nevertheless affirms its belief that wherever possible its business should be conducted in public.

The hearing will begin with the public presentation by petitioner, followed by questioning of petitioner by the Commission. Respondent will then make public arguments and be questioned as appropriate by the Commission. Following respondent's public presentation and questioning, an *in camera* session concerning the above-described business proprietary information (BPI) will begin. For this discussion the room will be cleared of all persons except: (1) Those who have been granted access to BPI under the administrative protective order (APO) and are included on the Commission's APO service list in this investigation, (2) persons who will be presenting *in camera* testimony on behalf of the parties, and (3) personnel of the Commission, including the court reporter. Any representatives of the petitioner eligible to attend the session may respond and be questioned by the Commission as appropriate.

After petitioner's *in camera* presentation, respondent's representatives will be given the opportunity to present an *in camera* rebuttal to respondent's presentation. Respondent will then be given the opportunity to make its *in camera* presentation, followed by petitioner's *in camera* rebuttal. Two short recesses may be necessary to enable preparation of the rebuttals.

Following the *in camera* session, the Commission would reopen the hearing to the public for concluding statements or for additional public questioning by the Commission. The time for the

parties' presentations in the *in camera* sessions will be taken from their respective overall allotments for the hearing. All persons planning to attend the *in camera* portion of the hearing should be prepared to present proper identification.

Authority: The General Counsel has certified, pursuant to Commission Rule 201.39 (19 CFR 201.39) that, in her opinion, a portion of the Commission's hearing in Portable Electric Typewriters from Singapore, Inv. No. 731–TA–515 (Final), may be closed to the public to prevent the disclosure of BPI as described in Commission Rule 201.36(b)(4) (19 CFR 210.36(b)(4)).

By order of the Commission.

Issued: June 24, 1993.

Paul R. Bardos,

Acting Secretary.

[FR Doc. 93–15426 Filed 6–29–93; 8:45 am]

BILLING CODE 7020–02–P

[Investigation No. 731–TA–651 (Preliminary)]

Silicon Carbide From the People's Republic of China

AGENCY: United States International Trade Commission.

ACTION: Institution and scheduling of a preliminary antidumping investigation.

SUMMARY: The Commission hereby gives notice of the institution of preliminary antidumping investigation No. 731–TA–651 (Preliminary) under section 733(a) of the Tariff Act of 1930 (19 U.S.C. 1673b(a)) to determine whether there is a reasonable indication that an industry in the United States is materially injured, or is threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports from the People's Republic of China of silicon carbide, whether or not chemically defined, and whether crude, in grains, or ground, pulverized or refined, provided for in subheadings 2849.20.10 and 2849.20.20 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value. The Commission must complete preliminary antidumping investigations in 45 days, or in this case by August 5, 1993.

For further information concerning the conduct of this investigation and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A and B (19 CFR part 207).

EFFECTIVE DATE: June 21, 1993.

FOR FURTHER INFORMATION CONTACT: Brian Walters (202–205–3198), Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202–205–1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–2000.

SUPPLEMENTARY INFORMATION:

Background

This investigation is being instituted in response to a petition filed on June 21, 1993, by the Ad Hoc Silicon Carbide Coalition, Washington, DC.

Participation in the Investigation and Public Service List

Persons (other than petitioners) wishing to participate in the investigation as parties must file an entry of appearance with the Secretary to the Commission, as provided in §§ 201.11 and 207.10 of the Commission's rules, not later than seven (7) days after publication of this notice in the **Federal Register**. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to this investigation upon the expiration of the period for filing entries of appearance.

Limited Disclosure of Business Proprietary Information (BPI) Under an Administrative Protective Order (APO) and BPI Service List

Pursuant to § 207.7(a) of the Commission's rules, the Secretary will make BPI gathered in this preliminary investigation available to authorized applicants under the APO issued in the investigation, provided that the application is made not later than seven (7) days after the publication of this notice in the **Federal Register**. A separate service list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

Conference

The Commission's Director of Operations has scheduled a conference in connection with this investigation for 9:30 a.m. on July 12, 1993, at the U.S. International Trade Commission Building, 500 E Street SW., Washington, DC. Parties wishing to participate in the conference should contact Brian Walters (202–205–3198) not later than July 8, 1993, to arrange for their appearance. Parties in support of the imposition of antidumping duties in this investigation and parties in opposition to the imposition of such duties will each be collectively allocated one hour within which to make an oral presentation at the conference. A nonparty who has testimony that may aid the Commission's deliberations may request permission to present a short statement at the conference.

Written Submissions

As provided in §§ 201.8 and 207.15 of the Commission's rules, any person may submit to the Commission on or before July 15, 1993, a written brief containing information and arguments pertinent to the subject matter of the investigation. Parties may file written testimony in connection with their presentation at the conference no later than three (3) days before the conference. If briefs or written testimony contain BPI, they must conform with the requirements of §§ 201.6, 207.3, and 207.7 of the Commission's rules.

In accordance with §§ 201.16(c) and 207.3 of the rules, each document filed by a party to the investigation must be served on all other parties to the investigation (as identified by either the public or BPI service list), and a certificate of service must be timely filed. The Secretary will not accept a document for filing without a certificate of service.

Authority: This investigation is being conducted under authority of the Tariff Act of 1930, title VII. This notice is published pursuant to § 207.12 of the Commission's rules.

Issued: June 25, 1993.

By order of the Commission.

Paul R. Bardos,

Acting Secretary.

[FR Doc. 93–15424 Filed 6–29–93; 8:45 am]

BILLING CODE 7020–02–P

[Investigation No. 751–TA–15]

Stainless Steel Plate From Sweden

AGENCY: United States International Trade Commission.

ACTION: Institution of a review investigation concerning the Commission's affirmative determination in investigation No. AA1921–114, stainless steel plate from Sweden.

SUMMARY: The Commission hereby gives notice that it has initiated an investigation pursuant to section 751(b) of the Tariff Act of 1930 (19 U.S.C. 1675(b)) (the Act) to review its determination in investigation No. AA1921–114. The purpose of the investigation is to determine whether an industry in the United States would be materially injured, or would be

threatened with material injury, by reason of imports of stainless steel plate from Sweden if the antidumping order regarding such merchandise were to be revoked. Stainless steel plate is provided for in subheadings 7219.11.0000, 7219.12.0000, 7219.21.0000, 7219.22.0000, 7219.31.0000, 7220.11.0000, and 7220.20.10 of the Harmonized Tariff Schedule of the United States.

For further information concerning the conduct of this investigation, hearing procedures, and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A and E (19 CFR part 207).

EFFECTIVE DATE: June 30, 1993.

FOR FURTHER INFORMATION CONTACT: Fred Ruggles (202–205–3187), Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202–205–1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–2000.

SUPPLEMENTARY INFORMATION

Background

On May 1, 1973, the Commission determined that an industry in the United States was injured within the meaning of the Antidumping Act of 1921 by reason of imports of stainless steel plate from Sweden which the Secretary of Treasury had determined to be sold or likely to be sold at less than fair value (LTFV). On June 5, 1973, the Department of Treasury issued a finding of dumping and published a notice of its determination in the **Federal Register** (38 FR 15079).

On July 8, 1985, the Commission received a request to review its affirmative determination in investigation No. AA1921–114. The request was filed pursuant to section 751(b) of the Tariff Act of 1930 by counsel on behalf of Avesta AB, the largest Swedish producer and exporter of stainless steel plate, and Avesta Stainless Inc., a U.S. producer of stainless steel plate. The Commission published a notice in the **Federal Register** requesting comment as to whether changed circumstances were sufficient to warrant institution of a review investigation. Comments were submitted on behalf of Allegheny Ludlum Steel Corp., Armco Inc., LTV Steel Co., Washington Steel Corp., and the United Steelworkers of America opposing the institution of a review investigation. After consideration of the information contained in the petition and in the responses to the notice, the Commission determined that the petition did not show changed circumstances sufficient to warrant institution of a review investigation (50 FR 43613).

On February 24, 1987, the Commission received a second request, pursuant to section 751(b) of the Act, to review its affirmative determination in investigation No. AA1921–114. This request was again filed by counsel for Avesta AB and Avesta Stainless Inc. The Commission again published a notice in the **Federal Register** requesting comment as to whether changed circumstances were sufficient to warrant institution of a review investigation. The changed circumstances alleged in the petition included (1) the acquisition by Avesta of a domestic facility in 1976, (2) the alleged decline of imports of Swedish plate since 1976 to commercially insignificant amounts, (3) the consolidation of production in Sweden from four producers to one, and (4) the increase in Swedish shipments to the European Community (EC) following a bilateral free trade agreement covering stainless steel plate; (5) U.S. producers of stainless steel were highly protected due to voluntary restraint agreements (VRAs) with a number of countries putting Sweden at a competitive disadvantage vis-a-vis other foreign producers; (6) Sweden supplied U.S. demand for a type of cold-rolled plate, referred to as "KBR plate," of widths which U.S. firms were unable to supply; and (7) Sweden supplied several newly patented types of steel plate, not produced domestically, and that such imports should be excluded from the scope of the antidumping order. In addition, the petition argued that the import data used by the Commission should be adjusted to exclude certain types of stainless steel plate (type 904L, Stavex, and Ramex) because there was no comparable domestic product. These products allegedly represented between 30 and 60 percent of imports from Sweden in recent years.

Comments were again submitted on behalf of Allegheny Ludlum Steel Corp., Armco Inc., LTV Steel Co., Washington Steel Corp., and the United Steelworkers of America opposing the institution of a review investigation. After consideration of the information in the petition and in the responses to the notice, the Commission determined that the petition did not show changed circumstances sufficient to warrant institution of a review investigation (52 FR 24541). In making that determination, the Commission made no adjustments to the import data to exclude type 904L, Stavex, or Ramex plate since they apparently were included in the scope of the order. The Commission discounted the significance of the purchase of a domestic facility in 1976 and rejected the allegation that imports from Sweden had declined since that acquisition because the data available to it at the time indicated that imports had not decreased since 1976 and there was a notable increase from 1984 to 1986.

Recently, the Commission has received significant new information that affects the reasoning the Commission gave for rejecting the petitions for review in 1985 and 1987. Specifically, the Commission has been informed that the Customs Service, in an unpublished scope determination in 1976, had excluded imports of Stavex and Ramex from the scope of the antidumping order. In addition, type 904L had also been excluded from the scope of the order. Neither the Commission nor the parties were aware of this, either during the administrative proceedings or during appellate review before the Court of International Trade or before the Court of Appeals for the Federal Circuit. Had it known of these scope rulings, pursuant to the statute, the Commission would have excluded from its analysis of import volume, and the effect of imports on the domestic industry, any imports that were not subject to a finding of dumping or were not otherwise within the scope of an antidumping order. The evidence of record clearly indicates that exclusion of the volume of imports of type 904L, Stavex, and Ramex plate from the import data would significantly reduce the volume of LTFV imports from Sweden subject to the order. This fact, together with the acquisition of a domestic facility by Avesta and the change in the composition of imports from Sweden, now suggest that a review investigation is warranted.

In light of the foregoing, the Commission has determined that changed circumstances warrant a section 751 review of the antidumping order covering imports of stainless steel plate from Sweden. Upon review the Commission will seek information regarding the current condition of the domestic industry and the potential impact of revocation of the order on that industry. Further, the Commission will seek information regarding recent levels of imports of stainless steel plate from Sweden, the effect of the 1976 scope ruling on those levels, and the likely

consequences of revocation on Swedish exports to the United States. Finally, the Commission will seek information regarding Avesta's domestic operations and the relationship between its domestic operations, its exports from Sweden, and its exports to the EC.

Participation in the Investigation and Public Service List

Persons wishing to participate in the investigation as parties must file an entry of appearance with the Secretary to the Commission, as provided in § 201.11 of the Commission's rules, not later than twenty-one (21) days after publication of this notice in the **Federal Register**. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to this investigation upon the expiration of the period for filing entries of appearance.

Limited Disclosure of Business Proprietary Information (BPI) Under an Administrative Protective Order (APO) and BPI Service List.

Pursuant to § 207.7(a) of the Commission's rules, the Secretary will make BPI gathered in this investigation available to authorized applicants under the APO issued in the investigation, provided that the application is made not later than twenty-one (21) days after the publication of this notice in the **Federal Register**. A separate service list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

Staff Report

The prehearing staff report in this investigation will be placed in the nonpublic record on September 3, 1993, and a public version will be issued thereafter, pursuant to section 207.21 of the Commission's rules.

Hearing

The Commission will hold a hearing in connection with this investigation beginning at 9:30 a.m. on September 16, 1993, at the U.S. International Trade Commission Building. Requests to appear at the hearing should be filed in writing with the Secretary to the Commission on or before September 10, 1993. A nonparty who has testimony that may aid the Commission's deliberations may request permission to present a short statement at the hearing. All parties and nonparties desiring to appear at the hearing and make oral presentations should attend a prehearing conference to be held at 9:30 a.m. on September 13, 1993, at the U.S. International Trade Commission Building. Oral testimony and written materials to be submitted at the public hearing are governed by § § 201.6(b)(2), 201.13(f), and 207.23(b) of the Commission's rules. Parties are strongly encouraged to submit as early in the investigation as possible any requests to present a portion of their hearing testimony *in camera*.

Written Submissions

Each party is encouraged to submit a prehearing brief to the Commission. Prehearing briefs must conform with the provisions of § 207.22 of the Commission's rules; the deadline for filing is September 10, 1993. Parties may also file written testimony in connection with their presentation at the hearing, as provided in § 207.23(b) of the Commission's rules, and posthearing briefs, which must conform with the provisions of § 207.24 of the Commission's rules. The deadline for filing posthearing briefs is September 24, 1993; witness testimony must be filed no later than three (3) days before the hearing. In addition, any person who has not entered an appearance as a party to the investigation may submit a written statement of information pertinent to the subject of the investigation on or before September 24, 1993. All written submissions must conform with the provisions of § 201.8 of the Commission's rules; any submissions that contain BPI must also conform with the requirements of § § 201.6, 207.3, and 207.7 of the Commission's rules.

In accordance with §§ 201.16(c) and 207.3 of the rules, each document filed by a party to the investigation must be served on all other parties to the investigation (as identified by either the public or BPI service list), and a certificate of service must be timely filed. The Secretary will not accept a document for filing without a certificate of service.

Authority

This investigation is being conducted under authority of the Tariff Act of 1930, title VII. This notice is published pursuant to § 207.45 of the Commission's rules.

By order of the Commission.

Issued: June 24, 1993.

Paul R. Bardos,

Acting Secretary.

[FR Doc. 93–15428 Filed 6–29–93; 8:45 am]

BILLING CODE 7020–02–P

Appointment of Individuals To Serve as Members of Performance Review Boards

AGENCY: United States International Trade Commission.

ACTION: Appointment of individuals to serve as members of Performance Review Boards.

EFFECTIVE DATE: June 24, 1993.

FOR FURTHER INFORMATION CONTACT: Micheal J. Hillier, Director of Personnel, U.S. International Trade Commission, (202) 205–2651.

SUPPLEMENTARY INFORMATION: The Chairman of the U.S. International Trade Commission has appointed the following individuals to serve on the Commission's Performance Review Board (PRB).

Chairman of PRB—Vice Chairman Peter S. Watson
Member—Commissioner David B. Rohr
Member—Commissioner Anne E. Brunsdale
Member—Commissioner Carol T. Crawford
Member—Commissioner Janet A. Nuzum
Member—William L. Featherstone, Jr.
Member—Lorin L. Goodrich
Member—Lynn I. Levine
Member—Robert A. Rogowsky
Member—Eugene A. Rosengarden
Member—Lyn M. Schlitt
Member—Marion L. Simpson, Jr.

Notice of these appointments is being published in the **Federal Register** pursuant to the requirement of 5 U.S.C. 4314(c)(4).

Hearing-impaired individuals are advised that information on this matter can be obtained by contacting our TDD terminal on (202) 205–1810.

By order of the Chairman.

Issued: June 30, 1993.

Paul R. Bardos,

Acting Secretary.

[FR Doc. 93–15427 Filed 6–29–93; 8:45 am]

BILLING CODE 7020–02–P

INTERSTATE COMMERCE COMMISSION

Availability of Environmental Assessments

Pursuant to 42 U.S.C. 4332, the Commission has prepared and made available environmental assessments for the proceedings listed below. Dates environmental assessments are available are listed below for each individual proceeding.

To obtain copies of these environmental assessments contact Ms.

Johnnie Davis or Ms. Tawanna Glover-Sanders, Interest Commerce Commission, Section of Energy and Environment, room 3219, Washington, DC 20423, (202) 927–5750 or (202) 927–6245.

Comments on the following assessment are due 15 days after the date of availability: None.

Comments on the following assessment are due 30 days after the date of availability:

AB–167 (SUB–NO. 1116), Consolidated Rail Corporation—Abandonment—Between Upper Sandusky and Dunkirk, in Hardin and Wyandot Counties, Ohio. EA available June 25, 1993.

Sidney L. Strickland, Jr.,

Secretary.

[FR Doc. 93–15389 Filed 6–29–93; 8:45 am]

BILLING CODE 7035–01–M

Revision of Publication OCP–100, Your Rights and Responsibilities When You Move

AGENCY: Interstate Commerce Commission.

ACTION: Notice of revision of OCP–100.

SUMMARY: The Commission is permitting interstate household goods movers to print minor editorial corrections in the publication entitled OCP–100, Your Rights and Responsibilities When You Move, and to print a notice describing increased valuation charges to be inserted inside the OCP–100 cover.

DATES: The revision of OCP–100 is effective June 25, 1993.

FOR FURTHER INFORMATION CONTACT: Charles E. Wagner (202) 927–5530, John W. Fristoe, (202) 927–5520, (TDD for hearing impaired: (202) 927–5721).

SUPPLEMENTARY INFORMATION: Under 49 CFR 1056.2, the publication entitled, Your Rights and Responsibilities When You Move is required to be given to consumers by movers and household goods brokers to provide them with information about their rights and responsibilities as shippers of household goods. From time to time the publication must be revised. Under 49 1056.2(b)(2), notice of amendments to publications OCP–100 must be published in the **Federal Register**. We are revising the publication to make editorial corrections to reflect current valuation rate information and to alert shippers as to the appropriate level of valuation charges that now apply. None of these changes constitute a material change requiring notice and comments.

In Released Rates of Motor Common Carriers of Household Goods, 9 I.C.C.2d, 523 (1993) we modified existing released rate authorities to permit household goods carriers to increase excess value charges for released rate shipments and to restructure excess value changes for storage-in-transit shipments. This change in released rates makes certain information in the OCP–100 publication obsolete. We are, therefore, in this notice permitting the movers to reflect this change:

They may make the following editorial corrections in the *The Mover's Liability for Loss or Damage* section when printing supplies of the OCP–100:

(Page 10, Paragraph 2, Line 6)—"$7.00 for each $1,000 of liability.",

(Page 10, Paragraph 3, Line 5)—"$7.00 for each $1,000 of declared value", and;

(Page 10, Paragraph 3, Line 6)—"which in this case would result in a charge of $70.00".

They may print a notice to be inserted inside the cover using the following language:

All Shippers Please Notice—New Valuation Charges

This is to notify you that effective May 21, 1993, the ICC has allowed movers to increase their rates under the new Released Rates Order No. MC–999. The Old Release Rates Order Nos. MC–505 and MC–672, which were in effect for the last 26 years, are now rescinded. This means that the following valuation charges are now in effect:

—70 cents (not 50 cents) for each $100, or fraction thereof, of the released or declared value for shipments released to a value of not less than $1.25 per pound;

—12% additional valuation charge for shipments requiring *Storage-In-Transit for each 15-days storage period or fraction thereof; except,

—10% instead of 12% when Full Valuation Protection is ordered for each 15 days or fraction thereof for *Storage-in-Transit.

(*Storage-in-Transit valuation charges are to be assessed in 15-day increments.)

A copy of this notice may be obtained by writing to the Office of Compliance and Consumer Assistance, room 4133, 12th Street and Constitution Avenue, NW., Washington, DC, 20423 or by calling (202) 927–5557. Assistance for the hearing impaired is available through TDD Services at (202) 927–5721.

Dated: June 24, 1993.

Decided: Bernard Gaillard, Director, Office of Compliance and Consumer Assistance.

Sidney L. Strickland, Jr.,

Secretary.

[FR Doc. 93–15391 Filed 6–29–93; 8:45 am]

BILLING CODE 7035–01–M

DEPARTMENT OF JUSTICE

Lodging of Consent Decree Under the Comprehensive Environmental Response Compensation and Liability Act

In accordance with the policy of the Department of Justice, notice is hereby given that on June 18, 1993 a proposed consent decree in *United States* v. *Gregory A. Schmalz, et al.*, Civil Action No. 90–C–0941 was lodged with the United States District Court for the Eastern District of Wisconsin. This action was brought, pursuant to sections 104 and 107 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U.S.C. 9601 *et seq.* ("CERCLA"), for the recovery of costs expended by the United States in connection with the cleanup of the Schmalz Dump Superfund Site ("Site") located in the Town of Harrison, Calumet County, Wisconsin.

Under the consent decree, defendant City of Menasha, acting through Menasha Electric and Water Utilities, and third party defendant Consolidated Papers, Inc. (collectively, the "settling defendants"), will pay $1,520,243.39 to the Hazardous Substances Superfund to reimburse the United States for response costs incurred at the Site in connection with the cleanup and removal activities at the Site. The consent decree also provides that the settling defendants will pay all future costs incurred or to be incurred in connection with the second operable unit at the Site. "Future costs," are defined by the consent decree to mean those costs incurred by the United States after March 31, 1992. The consent decree also contains certain recovery sharing provisions in case the United States or the settling defendants recover a judgment against third party defendants Menasha Corporation, Warren Wieseler, or Wieseler Construction, Inc. that are based upon costs incurred by the United States in connection with the Site.

The Department of Justice will receive comments relating to the proposed consent decrees for a period of 30 days from the date of this publication. Comments should be addressed to the Assistant Attorney General of the Environment and Natural Resources Division, Department of Justice, Washington, DC 20530. All comments should refer to *United States* v. *Gregory Schmalz et al.*, DJ Ref. #90–11–2–224.

The proposed consent decree may be examined at the office of the United States Attorney, 517 E. Wisconsin

Avenue, room 330, Milwaukee, Wisconsin 53202 and at the Region V Office of the Environmental Protection Agency, 111 West Jackson Blvd., 3rd floor, Chicago, Illinois 60604. Copies of the proposed consent decree may also be examined at the Consent Decree Library, 1120 G. Street, NW., 4th Floor, Washington, DC 20005, (202) 624–0892. A copy of the proposed decrees may be obtained in person or by mail from the Consent Decree Library. In requesting a copy, please enclose a check in the amount of $6.75 (25 cents per page reproduction costs), payable to the Consent Decree Library.

John C. Cruden,

Chief, Environmental Enforcement Section, Environment and Natural Resources Division, U.S. Department of Justice.

[FR Doc. 93–15322 Filed 6–29–93; 8:45 am]

BILLING CODE 4410–01–M

DEPARTMENT OF LABOR

Office of the Secretary

Commission on the Future of Worker-Management Relations; Request for Comments

This notice seeks comments from representatives of management, labor and other interested parties on whether the Commission should hold a hearing on issues related to the Railway Labor Act in the railroad or airline industries and their applicability to the following three questions contained in the Commission's charter:

(1) What (if any) new methods of institutions should be encouraged, or required, to enhance workplace productivity through labor-management corporation and employee participation?

(2) What (if any) changes should be made in the present legal framework and practices of collective bargaining to enhance cooperative behavior, improve productivity and reduce conflict and delay?

(3) What (if anything) should be done to increase the extent to which workplace problems are directly resolved by the parties, themselves, rather than recourse to state and federal courts and government regulatory bodies?

The Commission requests that any submission contain a brief statement regarding the questions listed above in the event a party believes a hearing is appropriate. Comments should be submitted by July 26, 1993 and should be addressed to Mrs. June M. Robinson, Designated Federal Official, Commission on the Future of Worker-Management Relations, U.S. Department of Labor, room C–2318, 200 Constitution Avenue, NW., Washington, DC 20210.

FOR FURTHER INFORMATION CONTACT: Mrs. June M. Robinson, Designated Federal Official, Commission on the Future of Worker-Management Relations, U.S. Department of Labor, room C–2318, Washington, DC, telephone (202) 219–9148.

Signed at Washington, DC, this 25th day of June, 1993.

June M. Robinson,

Designated Federal Official, Commission on the Future of Worker-Management Relations.

[FR Doc. 93–15409 Filed 6–29–93; 8:45 am]

BILLING CODE 4510–23–M

Occupational Safety and Health Administration

Targeted Training Grants

AGENCY: Occupational Safety and Health Administration (OSHA), Labor.

ACTION: Notice of grant program.

SUMMARY: The Occupational Safety and Health Administration (OSHA) has a grant program, Targeted Training, which awards funds to nonprofit organizations to address unmet needs for safety and health training and education in the workplace. This notice announces Targeted Training grant availability for training construction workers in the hazards of lead, general industry workers in confined space requirements, construction workers in confined space activities or work practices, workers at risk in the hazards of bloodborne diseases, and workers participating in the Maine 200 project. This notice describes the scope of the grant program and provides information on how to obtain a grant application. Applications should not be submitted without first obtaining the detailed grant application package mentioned later in the notice.

Authority for this program may be found in section 21(c) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 670).

DATES: Applications must be received by August 13, 1993.

ADDRESSES: Grant applications must be submitted to the OSHA Office of Training and Education, Division of Training and Educational Programs, 1555 Times Drive, Des Plaines, Illinois 60018.

FOR FURTHER INFORMATION CONTACT: Ronald Mouw, Chief, Division of Training and Educational Programs, or Helen Beall, Training Specialist, Office of Training and Education, Occupational Safety and Health Administration, U.S. Department of Labor, 1555 Times Drive, Des Plaines, Illinois 60018, telephone (708) 297–4810.

SUPPLEMENTARY INFORMATION:

Background

Section 21(c) of the Occupational Safety and Health Act provides for the education and training of employers and workers in the recognition, avoidance, and prevention of unsafe or unhealthful working conditions. OSHA has used a variety of approaches over the years to fulfill its responsibilities under this section, one of which is the awarding of grants to nonprofit organizatiens to develop and provide training and education to workers and employers.

The Targeted Training Program is OSHA's current grant program for training and education of workers and employers. Its goals include educating small businesses, training in new OSHA standards, and training in areas of special emphasis or recognized high risk activities or tasks. Organizations awarded grants under this program will be expected to develop training and/or educational programs that address a target named by OSHA, reach out to workers and employers for whom the program is appropriate, and provide them with the training and/or educational program. Success is measured by the number of individuals participating in the program and evidence of their increased ability to recognize and abate hazards or to comply with standards.

Scope

The purpose of this notice is to announce the availability of funds for grants. Each grant awarded will be designed to develop and provide training and education in one of the following target areas.

1. Lead in Construction

Programs that provide training to employers and workers in the requirements of 29 CFR 1926.62, lead exposure in construction. Programs are to address the recognition and abatement of lead hazards in construction involving the repair and renovation of bridges or steel structures or in the demolition of buildings and other structures.

2. Confined Spaces

a. General Industry

Programs that provide training and education to employers and workers in the requirements of 29 CFR 1910.146, permit-required confined spaces. Grantees will be expected to provide

training in industries where confined spaces must be entered frequently or in industries that have a high incidence of injuries and deaths in confined spaces.

b. Construction

Programs that provide training and education to employers and workers in the hazards of confined spaces and precautions and protective and emergency equipment to be used when entering confined spaces.

3. Bloodborne Diseases

Programs that provide training and education in the requirements of 29 CFR 1910.1030, bloodborne pathogens, to workers at risk of exposure to bloodborne diseases, including construction workers.

4. Maine 200 Project

Programs that provide training to workers participating with their employer in this pilot. Grantees will be expected to be in New England and provide on-site training on the various aspects of effective safety and health programs to the employees of the firms identified by OSHA as being among the top two hundred employers in Maine that experienced the greatest number of serious workplace injuries and illnesses.

Among the activities which may be supported under these grants are: Conducting training, conducting other educational activities designed to reach and inform workers, and developing educational materials for use in the training and/or educational activities.

Eligible Applicants

Any nonprofit organization that is not an agency of a State or local government is eligible to apply. However, State or local government supported institutions of higher education are eligible to apply in accordance with 29 CFR 97.4(a)(1).

Nonsupportable Activities

Statutory and regulatory limitations, as well as the objectives of the grant program, prevent reimbursement for certain activities under these grants. These limitations include the following.

1. Any activities inconsistent with the goals and objectives of the Occupational Safety and Health Act of 1970.

2. Activities involving workplaces largely precluded from enforcement action under section 4(b)(1) of the Occupational Safety and Health Act.

3. Activities for the benefit of State, county or municipal employees unless those employees are covered by a State Plan funded by OSHA under section 23(g) of the Occupational Safety and Health Act.

4. Production, publication, reproduction or use of training and educational materials, including newsletters and programs of instruction, that have not been approved by OSHA.

5. Lobbying.

6. Training and other educational activities that primarily address issues other than recognition, avoidance, and prevention of unsafe and unhealthful working conditions. Examples include activities concerning workers' compensation, first aid, and publication of materials prejudicial to labor or management.

7. Activities that provide assistance to workers in arbitration cases or other actions against employers, or that provide assistance to employers and/or workers in the prosecution of claims against Federal, State or local governments.

8. Activities that directly duplicate services offered by OSHA, a State under a State Plan, or consultation programs provided by State designated agencies under sections 7(c)(1) of the Occupational Safety and Health Act.

9. Activities directly or indirectly intended to generate membership in the grant recipient's organization. This includes activities to acquaint non-members with the benefits of membership, inclusion of membership appeals in materials produced with grant funds, and membership drives.

Administrative Requirements

Grant recipients must provide copies of the educational materials to OSHA by the end of the grant period. Programs will be subject to OSHA review and approval during development and before final publication.

The grant program will be administered in compliance with 41 CFR Part 29-70 and OMB Circulars A-110, A-133, and A-21 or A-122.

All applicants will be required to certify to a drug-free workplace in accordance with 20 CFR part 98 and to comply with the New Restrictions on Lobbying published at 29 CFR part 93.

The program is subject to matching share requirements. Grant recipients will be expected to provide a minimum of 20% of the total grant budget. For example, if the Federal share of the grant is $80,000 (80% of the grant), then the matching share will be $20,000 (20% of the grant), for a total grant of $100,000. The matching share may exceed 20%.

Evaluation Process and Criteria

Applications for grants solicited in this notice will be evaluated on a competitive basis by the Assistant Secretary for Occupational Safety and Health with assistance and advice from OSHA staff.

The following factors, which are not ranked in order of importance, will be considered in evaluating grant applications.

1. Program Design

a. The plan to develop and implement a training and education program that addresses one of the following targets.

i. Lead in construction.

ii. Confined spaces.

iii. Bloodborne diseases.

iv. Main 200 project.

b. The number of workers to be reached by the program.

c. The appropriateness of the planned activities for the target selected.

d. The plan for evaluating the program's effectiveness in achieving its objectives.

e. The feasibility and soundness of the proposed work plan in achieving the program objectives effectively.

2. Program Experience

a. Prior occupational safety and health experience of the organization.

b. Previous and current training or education programs developed by the organization.

c. Technical and professional expertise of present or proposed project staff.

d. Prior experience in reaching and serving the target population with occupational safety and health and/or training and educational programs.

3. Administrative Capability

a. Managerial expertise of the applicant as evidenced by the variety and complexity of current and/or recent programs it has administered.

b. Financial management capability of the applicant as evidenced by a recent report from an independent audit firm or a recent report from another independent organization qualified to render judgment concerning the soundness of the applicant's financial practices.

c. Evidence of the applicant's nonprofit status, preferably from the IRS.

d. The completeness of the application, including forms, budget detail, narrative and workplan, and required attachments.

4. Budget

a. The reasonableness of the budget in relation to the proposed program activities.

b. The proposed non-Federal share is at least 20% of the total budget.

c. The compliance of the budget with applicable Federal cost principles and with OSHA requirements contained in the grant application instructions.

Preference will be given to applications that propose to serve small businesses.

In addition to the preceding factors, the Assistant Secretary will consider other factors such as the overall geographical distribution and coverage of populations at risk.

Availability of Funds

There is approximately $1,200,000 available for this program, of which $600,000 is for grants addressing lead in construction, $250,000 for confined spaces, $250,000 for bloodborne diseases, and $100,000 for Maine 200. Grants will be awarded for an eighteen-month period.

Application Procedures

Those organizations that meet the eligibility requirements described above and are interested in conducting project activities as described may request a grant application package from the OSHA Office of Training and Education, Division of Training and Educational Programs, 1555 Times Drives, Des Plaines, Illinois 60018.

All applications must be received no later than 4:30 p.m. Central Time, August 13, 1993.

Notification of Selection

Following review and evaluation, those organizations selected as potential grant recipients will be notified by a representative of the Assistant Secretary. An applicant whose proposal is not selected will also be notified in writing to that effect. Notice of selection as a potential grant recipient will not constitute approval of the grant application as submitted. Prior to the actual grant award, representatives of the potential grant recipient and OSHA will enter into negotiations concerning such items as program components, funding levels, and administrative systems. If negotiations do not result in an acceptable submittal, the Assistant Secretary reserves the right to terminate the negotiation and decline to fund the proposal.

Signed at Washington, DC, this 24th day of June 1993.

David C. Zeigler,

Acting Assistant Secretary of Labor.

[FR Doc. 93–15351 Filed 6–29–93; 8:45 am]

BILLING CODE 4510-26-M

NUCLEAR REGULATORY COMMISSION

Workshop To Discuss Issues for the Proposed Policy on Compatibility of Agreement States

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of meeting.

SUMMARY: The Nuclear Regulatory Commission (NRC) staff plans to convene a public workshop with representatives of Agreement States, non-Agreement States, the regulated community, public groups and the general public to discuss the issues relating to the development of an overall policy on the compatibility of Agreement State regulatory programs with that of the NRC. The purpose of the workshop is to seek comments and recommendations from the full spectrum of interested parties on the various issues pertaining to the compatibility of Agreement State regulatory programs with the NRC.

DATES: The workshop will be held on July 26–27, 1993.

ADDRESSES: The meeting is to be held at the Ramada Inn Rockville at Congressional Park, 1775 Rockville Pike, Rockville, Maryland 20852 (301) 881–2300.

FOR FURTHER INFORMATION CONTACT: Sheldon Schwartz, Office of State Programs, Mail Stop 3D23, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 504–2325.

SUPPLEMENTARY INFORMATION: The Commission has directed the staff to develop a Commission policy on compatibility, except that the focus should include all program areas other than low-level radioactive waste disposal. In April 1993 a working group was established to develop a policy on compatibility and provide guidance on criteria for determining compatibility and an implementation strategy. In order to facilitate the development of the compatibility policy, the working group developed an isssues paper, Issues for the Proposed Policy on Compatibility of Agreement States, to generate discussion and input on compatibility. This issues paper will be used to facilitate discussion at the July workshop. A copy of this paper can be obtained by contacting: Cardelia Maupin, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone (301) 504–2312.

Conduct of the Meeting

The workshop will be conducted in a manner that will expedite the orderly conduct of business. A transcript of the workshop will be available for inspection, and copying for a fee, at the NRC Public Document Room, 2120 L Street NW. (Lower Level), Washington, DC 20555 on or about September 27, 1993.

The following procedures apply to public attendance at the workshop:

1. Questions or statements will be entertained as time permits.

2. Seating will be on a first-come, first-served basis.

Dated at Rockville, Maryland this 23rd day of June 1993.

For the Nuclear Regulatory Commission.

Sheldon A. Schwartz,

Deputy Director, Office of State Programs.

[FR Doc. 93–15377 Filed 6–29–93; 8:45 am]

BILLING CODE 7590–01–M

Individuals Receiving Advance Notification of Nuclear Waste Shipments

States	Part 71	Part 73
Alabama	Col. George McMinn, Director, Alabama Department of Public Safety, P.O. Box 1511, Montgomery, AL 36192–0501 (205) 242–4378.	Same.
Alaska	Mead Treadwell, Deputy Commissioner, Alaska Department of Environmental Conservation, 410 Willoughby Avenue, Suite 105, Juneau, AK 99801–1795 (907) 465–2600.	Same.
Arizona	Aubrey Godwin, Director, Arizona Radiation Regulatory Agency, 4814 South 40th Street, Phoenix, AZ 85040 (602) 255–4845, After hours: (602) 223–2212.	Same.
Arkansas	Greta J. Dicus, Director, Division of Radiation Control and Emergency Management Programs, Arkansas Department of Health, 4815 West Markham Street, Little Rock, AR 72205 (501) 661–2301, After hours: (501) 661–2136 or 661–2000.	Same.

States	Part 71	Part 73
California	George M. Edgerton, Chief, Enforcement Services Division, California Highway Patrol, 444 North Third Street, Suite 310, Sacramento, CA 95814 (916) 445–3253.	Same
Colordao	Lt. Colonel Lonnie J. Westphal, Officer In Charge, Region I, Colorado State Patrol, 700 Kipling Street, Denver, CO 80215 (303) 239–4406, After hours: (303) 239–4501.	Same
Connecticut	Honorable Timothy R.E. Keeney, Commissioner, Department of Environmental Protection, State Office Building, 165 Capitol Avenue, Hartford, CT 06106 (203) 566–2110.	Same
Delaware	Karen L. Johnson, Secretary, Department of Public Safety, P.O. Box 818, Dover, DE 19903 (302) 739–4321.	Same.
Florida	Harlan Keaton, Manager, Environmental Radiation Program, Office of Radiation Control, Department of Health & Rehabilitative Services, P.O. Box 680069, Orlando, FL 32868–0069 (407) 297–2095.	Same.
Georgia	Al Hatcher, Director, Transportation Division, Public Service Commission, 1007 Virginia Avenue, Suite 310, Hapeville, GA 30354 (404) 559–6600.	Same
Hawaii	Bruce S. Anderson, Ph.D., Deputy Director for Environmental Health, State Department of Health, P.O. Box 96813, Honolulu, HI 96813 (808) 548–4139.	Same.
Idaho	Captain David C. Rich, Department of Law Enforcement, Idaho State Police, 3311 West State Street, P.O. Box 55, Boise, ID 83707–0055 (208) 334–3850.	Same.
Illinois	Thomas W. Ortciger, Director, Illinois Department of Nuclear Safety, 1035 Outer Park Drive, 5th Floor, Springfield, IL 62704 (217) 785–9868 (24 Hour), 24 Hrs Emergency: (217) 785–0600.	Same.
Indiana	Lloyd R. Jennings, Superintendent, Indiana State Police, 301 State Office Building, 100 North Senate Avenue, Indianapolis, IN 46204 (317) 232–8241, After hours: (317) 232–8248.	Same.
Iowa	Ellen M. Gordon, Administrator, Emergency Management Division, Hoover State Office Building, Des Moines, IA 50319 (515) 281–3231.	Same.
Kansas	Frank H. Moussa, M.S.A., Technological Hazards Administrator, The Adjutant General's Department, Division of Emergency Preparedness, P.O. Box C–300, Topeka, KS 66601 (913) 266–1409, After hours: (913) 296–3176.	Same.
Kentucky	Donald R. Hughes, Sr., Director, Division of Community Safety, Department for Health Services, 275 East Main Street, Frankfort, KY 40621 (502) 564–3700.	Same.
Louisiana	Captain Louis Cook, Louisiana State Police, 265 South Foster Drive, P.O. Box 66614, Baton Rouge, LA 70896 (504) 925–6113.	Same.
Maine	Chief of the State Police, Maine Dept. of Public Safety, 36 Hospital Street, Augusta, ME 04333 (207) 289–2155.	Same.
Maryland	Colonel James E. Harvey, Chief, Services Bureau, Maryland State Police, 1201 Reisterstown Road, Pikesville, MD 21208 (301) 486–3101.	Same.
Massachusetts	Robert M. Hallisey, Director, Radiation Control Program, Massachusetts Department of Health, State Laboratory Institute, 305 South Street, Jamaica Plain, MA 02130 (617) 727–6214.	Same.
Michigan	Captain Allen L. Byam, Commanding Officer, Special Operations Division, Michigan Department of State Police, 714 S. Harrison Road, East Lansing, MI 48823 (517) 336–6187, After hours: (517) 336–6100.	Same.
Minnesota	John R. Kerr, Assistant Director, Planning Branch, Minnesota Division of Emergency Management, B5—State Capitol, 175 Constitution Avenue, St. Paul, MN 55155 (612) 296–0481, After hours: (612) 649–5451.	Same.
Mississippi	James E. Maher, Director, Emergency Management Agency, P.O. Box 4501, Fondren Station, Jackson, MS 39296–4501 (601) 352–9100 (24 hours).	Same.
Missouri	Jerry B. Uhlmann, Director, State Emergency Management Agency, 1717 Industrial Drive, P.O. Box 116, Jefferson City, MO 65102 (314) 526–9779, After hours: (314) 751–2748.	Same.
Montana	Mr. Adrian Howe, Chief, Occupational Health Bureau, Environmental Sciences Div., Department of Health & Environmental Sciences, Room A113, Cogswell Bldg., Helena, MT 59620 (406) 444–3671, After hours: (406) 442–1426.	Bill Good, Acting Administrator, Disaster & Emergency Services, P.O. Box 4789, Helena, MT 59604–4789 (406) 444–6911.
Nebraska	Colonel Ron Tussing, Superintendent, Nebraska State Patrol, P.O. Box 94907, Lincoln, NE 68509 (402) 471–2406, After hours: (402) 471–4545.	Same.
Nevada	Stanley R. Marshall, Supervisor, Radiological Health Section, Bureau of Health Protection Services, Nevada Division of Health, 505 East King Street, Carson City, NV 89710 (702) 687–5394.	Same.
New Hampshire	Richard M. Flynn, Commissioner, New Hampshire Dept. of Safety, James H. Hayes Building, Hazen Drive, Concord, NH 03305 (603) 271–3636 (24 hours).	Same.
New Jersey	Kent Tosch, Manager, Department of Environmental Protection & Energy, Bureau of Nuclear Engineering, CN 415, Trenton, NJ 08625 (609) 987–2031.	Same.

States	Part 71	Part 73
New Mexico	Roland K. Lough, Chief, Emergency Management Bureau, Department of Public Safety, P.O. Box 1628, Santa Fe, NM 87504–1628 (505) 827–9222, After hours: (505) 294–7932.	Same.
New York	Anthony J. Germano, Acting Director, State Emergency Management Office, Public Security Building #22, State Campus, Albany, NY 12226 (518) 457–9996.	Same.
North Carolina	First Sergeant T.C. Stroud, Hazardous Materials Section, North Carolina Highway Patrol Training Center, 3318 Garner Road, Raleigh, NC 27610 (919) 662–4430, After hours: (919) 733–3861.	Same.
North Dakota	Dana K. Mount, Director, Division of Environmental Engineering, Department of Health, 1200 Missouri Avenue, Box 5520, Bismarck, ND 58502–5520 (701) 221–5188, After hours: (701) 224–2121.	Same.
Ohio	James R. Williams, Chief of Staff, Ohio Emergency Management Agency, 2825 W. Granville Road, Columbus, OH 43235–0301 (614) 889–7150.	Same.
Oklahoma	Dave McBride, Commissioner of Public Safety, Oklahoma Department of Public Safety, 3600 N. King Avenue, P.O. Box 11415, Oklahoma City, OK 73136–0145 (405) 425–2424 (24 hours).	Same.
Oregon	David Stewart-Smith, Administrator, Facility Regulation Division, Oregon Department of Energy, 625 Marion Street, NE., Salem, OR 97310 (503) 378–6469.	Same.
Pennsylvania	George M. Johnson, Director, Response and Recovery, Pennsylvania Emergency Management Agency, P.O. Box 3321, Harrisburg, PA 17105 (717) 783–8150, After hours: (717) 783–8150.	Same.
Rhode Island	William A. Maloney, Associate Administrator, Motor Carriers, Division of Public Utilities and Carriers, 100 Orange Street, Providence, RI 02903 (401) 277–3500.	Same.
South Carolina	Heyward G. Shealy, Chief, Bureau of Radiological Health, South Carolina Department of Health & Environmental Control, 2600 Bull Street, Columbia, SC 29201 (803) 734–4632, After hours: (803) 253–6497.	Same.
South Dakota	Gary N. Whitney, Division Director, Emergency Management, 500 E. Capitol, Pierre, SD 57501–5060 (605) 773–3231.	Same.
Tennessee	John White, Assistant Deputy Director, Tennessee Emergency Management Agency, State Emergency Operations Center, 3041 Sidco Drive, Nashville, TN 37204 (615) 741–0001, After hours: (Inside TN) 1–800–262–3300, (Outside TN) 1–800–258–3300.	Same.
Texas	David K. Lacker, Chief, Bureau of Radiation Control, Texas Department of Health, 1100 West 49th Street, Austin, TX 78756 (512) 834–6688.	Col. Joe E. Milner, Director, Texas Department of Public Safety, 5805 N. Lamar Blvd., Austin, TX 78752 (512) 465–2000.
Utah	William J. Sinclair, Deputy Director, Bureau of Radiation Control, 168 North 1950 West, P.O. Box 144850, Salt Lake City, UT 84114–4850 (801) 536–4250, After hours: (801) 538–6333.	Same.
Vermont	Patrick J. Garahan, Secretary, Vermont Agency of Transportation, 133 State Street, Montpelier, VT 05602 (802) 828–2657.	Same.
Virginia	James D. Holloway, Director, Technological Hazards Division, Department of Emergency Services, Commonwealth of Virginia, 310 Turner Road, Richmond, VA 23225 (804) 674–2400.	Same.
Washington	Robert J. Huss, Deputy Chief, Washington State Patrol, General Administration Building, Mail Stop AX–12, Olympia, WA 98504–0612 (206) 586–2340.	Same.
West Virginia	Colonel J.R. Buckalew, Superintendent, Department of Public Safety, 725 Jefferson Road, South Charleston, WV 25309 (304) 746–2111.	Same.
Wisconsin	Leroy E. Conner, Jr., Administrator, Wisconsin Division of Emergency Government, P.O. Box 7865, Madison, WI 53707–7865 (608) 266–3232.	Same.
Wyoming	Captain L.S. Gerard, Motor Carrier Officer, Wyoming Highway Patrol, 5300 Bishop Boulevard, P.O. Box 1708, Cheyenne, WY 82003–1708 (307) 777–4317, After hours: (307) 777–4323.	Same.
District of Columbia	Norma J. Stewart, Program Manager, Pharmaceutical and Medical Devices Control Division, Department of Consumer and Regulatory Affairs, 614 H Street, NW., Washington, DC 20001 (202) 727–7219, After hours: (202) 727–6161.	Same.
Puerto Rico	Santos Rohena, Jr., Chairman, Environmental Quality Board, P.O. Box 11488, Santurce, PR 00910 (809) 722–1175 or (809) 725–5140.	Same.
Guam	Fred M. Castro, Administrator, Guam Environmental Protection Agency, D107 IT&E Plaza, 130 Rojas Street, Harmon, Guam 96911 (671) 734–7216.	Same.
Virgin Islands	Alexander Farrelly, Governor, Government House, Charlotte Amalie, St. Thomas, Virgin Islands 00801 (809) 774–0001.	Same.

States	Part 71	Part 73
American Samoa	Mr. Pati Faiai, Government Ecologist, Environmental Protection Agency, Office of the Governor, Pago Pago, American Samoa 96799 (684) 633–2304.	Same.
Commonwealth of the Northern Mariana Islands.	Nicolas M. Leon Guerrero, Director, Department of Natural Resources, Commonwealth of Northern Mariana Islands Government, Capitol Hill, Saipan, MP 96950 (670) 322–9830 or (670) 322–9834.	Same.

Questions regarding this matter should be directed to Mindy Landau at (301) 504–2308.

Dated at Rockville, Maryland, this 22nd day of June 1993.

For the Nuclear Regulatory Commission.

Carlton Kammerer,

Director, Office of State Programs.

[FR Doc. 93–15378 Filed 6–29–93; 8:45 am]

BILLING CODE 7590–01–M

[Docket No. 50–293]

Boston Edison Co., Pilgrim Nuclear Station; Receipt of Petition for Director's Decision

Notice is hereby given that by letter dated May 26, 1993, Mr. Ernest Hadley submitted a Petition on behalf of We the People, Inc., of the United States (Petitioner) to the U.S. Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 2.206 regarding the Pilgrim Nuclear Station of the Boston Edison Company (Licensee). The Petition has been referred to the Office of Nuclear Reactor Regulation for preparation of a response.

Petitioner requested immediate action by the NRC to delay the schedule startup of the Pilgrim Nuclear Station or, in the alternative, to order its immediate shutdown if the Pilgrim Station is permitted to start up before the Petition can be acted upon.

Petitioner requests that the Pilgrim Nuclear Station not be permitted to operate until the Licensee completes hardware modifications designed to eliminate reactor water level measurement errors. Petitioner contends that the system in place at the Pilgrim facility does not adequately measure the water level of the reactor vessel and thus constitutes an immediate threat to the health and safety of the public.

Specifically, the Petitioner alleges that the NRC staff based its determination that continued operation of boiling water reactors (BWRs) such as the Pilgrim facility did not pose a safety threat on generic studies performed by the Boiling Water Reactor Owners Group (BWROG). These assurances were given, Petitioner alleges, despite the fact that on January 21, 1993, Washington Nuclear 2 reported a significant event in which a water level error was observed that was more than 1 hour in duration. It is further alleged that the error observed was significantly larger than those previously observed.

Additionally, Petitioner alleges that it has requested, from the NRC, information used by the Pilgrim licensee to make its operability determination for the water level measurement system as required by the Technical Specifications for the Pilgrim facility. Based on the NRC's failure to provide this information, Petitioner concludes that such information either does not exist or would not withstand independent scrutiny.

Finally, Petitioner refers to a meeting of the Advisory Committee on Reactors Safeguards held on May 12, 1993, which included the BWROG. It is Petitioner's understanding that during a closed session of that meeting, the BWROG and the NRC staff confirmed that water measurement errors could be on the order of 27 feet and that neither the BWROG nor the NRC staff any longer believe the error will correct itself with the passage of time.

On May 27, 1993, members of the NRC staff contacted Mr. Hadley by telephone to inform Petitioner that the NRC staff had considered the information presented in the Petition and that it has been determined not to grant the immediate relief sought. Mr. Hadley was further informed that Petitioner would receive a written response documenting the NRC staff's reasons for this decision.

In accordance with 10 CFR 2.206, appropriate action with regard to the specific issues raised in the Petition will be taken within a reasonable time.

A copy of the Petition is available for inspection at the Commission's Public Document Room at 2120 L Street, NW., Washington, DC 20555 and at the Local Public Document Room for the Pilgrim Nuclear Station located at Plymouth Public Library, 11 North Street, Plymouth, Massachusetts 02360.

Dated at Rockville, Maryland, this 22nd day of June 1993.

For the Nuclear Regulatory Commission.

Thomas E. Murley,

Director, Office of Nuclear Reactor Regulation.

[FR Doc. 93–15381 Filed 6–29–93; 8:45 am]

BILLING CODE 7590–01–M

[Docket Nos. 030–04530, and 030–06923; License Nos. 19–00915–03, and 19–00915–06; EAs 92–232 and 93–028]

Department of Agriculture; Order Imposing Civil Monetary Penalty

I

The U.S. Department of Agriculture (Licensee), Washington, DC is the holder of Byproduct/Source Material Licenses Nos. 19–00915–03 and 19–00915–06 (Licenses), issued by the U.S. Nuclear Regulatory Commission (NRC or Commission) pursuant to 10 CFR parts 30 and 33. License No. 19–00915–03 authorizes the Licensee to use byproduct material for research and development; in gauging and measuring devices; in field applications as approved by the Radiation Safety Committee (RSC); and for research studies in humans as approved by a Radioactive Drug Research Committee that has been approved by the Food and Drug Administration, and by the Licensee's Radiation Safety Committee (RSC). This is a large, multi-site, broad scope license with no stated possession limit. License No. 19–00915–06 authorizes the Licensee to use cobalt–60 and cesium–137 sealed sources in irradiators at sites and by users approved by the Licensee's RSC.

Licensed activities are conducted by a number of organizations within the Licensee's organization, including (1) the Agriculture Marketing Service (AMS); (2) the Animal, Plant, and Health Inspection Service (APHIS); (3) the Agricultural Research Service (ARS); (4) the Federal Grain Inspection Service (FGIS); (5) the Food Safety and Inspection Service (FSIS); (6) the National Forest Service (NFS); and (7) the Soil Conservation Service (SCS). Over 3500 permits currently have been issued to individuals in these services to use licensed material at numerous locations around the country.

The Licenses most recently were renewed on February 10, 1990 and May

22, 1986, respectively, and would have expired on February 28, 1991 and May 31, 1991, respectively. Both Licenses continue in force, pursuant to 10 CFR 30.37(b), because of the timely filing of applications by the Licensee to renew the Licenses.

II

Ten inspections of the Licensee's activities were conducted by the NRC between March and October 1992 at several Licensee facilities throughout the country. During the inspections, twelve violations of NRC requirements were identified, five of which were repetitive violations identified during previous NRC inspections. A written Notice of Violation and Proposed Imposition of Civil Penalty (Notice) was served upon the Licensee by letter dated March 26, 1993. The Notice states the nature of the violations, the provisions of the NRC's requirements that the Licensee had violated, and the amount of the civil penalty proposed for the violations.

The Licensee responded to the Notice by letters dated April 22, 1993. In its response, the Licensee admits all of the violations, but requests mitigation of the civil penalty.

III

After consideration the Licensee's response and the statements of fact, explanation, and argument for mitigation contained therein, the NRC staff has determined, as set forth in the Appendix to this Order, that the violations occurred as stated and that the penalty proposed for the violations designated in the Notice should be imposed.

IV

In view of the foregoing and pursuant to section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205, *It Is Hereby Ordered That:*

The Licensee pay a civil penalty in the amount of $10,000 within 30 days of the date of this Order, by check, draft, money order, or electronic transfer, payable to the Treasurer of the United States and mailed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555.

V

The Licensee may request a hearing within 30 days of the date of this Order. A request for a hearing should be clearly marked as a Request for an Enforcement Hearing and shall be addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555, with a copy to the Commission's Document Control Desk, Washington, DC 20555. Copies also shall be sent to the Assistant General Counsel for Hearings and Enforcement at the same address and to the Regional Administrator, NRC Region I, 475 Allendale Road, King of Prussia, Pennsylvania 19406.

If a hearing is requested, the Commission will issue an Order designating the time and place of the hearing. If the Licensee fails to request a hearing within 30 days of the date of this Order, the provisions of this Order shall be effective without further proceedings. If payment has not been made by that time, the matter may be referred to the Attorney General for collection.

In the event the Licensee requests a hearing as provided above, the issues to be considered at such hearing shall be whether, on the basis of the violations admitted by the Licensee, this Order should be sustained.

Dated at Rockville, Maryland this 23d day of June 1993.

For the Nuclear Regulatory Commission.

Hugh L. Thompson, Jr.,

Deputy Executive Director for Nuclear Materials Safety, Safeguards and Operations Support.

Appendix

Evaluations and Conclusion

On March 26, 1993, a Notice of Violation and Proposed Imposition of Civil Penalty (Notice) was issued for twelve violations identified during ten NRC inspections conducted between March and October 1992. The licensee responded to the Notice in letters dated April 22, 1993, and admits all of the violations, but requests mitigation of the civil penalty. The NRC's evaluations and conclusions regarding the licensee's requests are as follows:

1. Restatement of Violations

A. Condition 25 of License No. 19–00915–03 requires that licensed material be possessed and used in accordance with statements, representations, and procedures contained in an application dated July 11, 1989, and the letter dated March 9, 1990.

Item 3 of the application dated July 11, 1989, requires, in part, that Category I locations (major isotope users; facilities that use millicurie quantities of radioiodine and/or perform iodinations; and facilities that perform studies involving human subjects) be inspected at intervals not to exceed three years, and Category II locations (all non-Category I facilities that use licensed material in an unsealed form) be inspected by the Radiation Safety Staff at intervals not to exceed five years.

Condition 17 of License No. 19–00915–06 requires that licensed material be possessed and used in accordance with statements, representations, and procedures contained, in part, in an application dated August 27, 1985, and letters dated April 7, 1986, June 27, 1986, and April 14, 1987. Item K.11. of the application dated August 27, 1985 requires that irradiator facilities be inspected by the Radiation Safety Staff at least every three years.

Contrary to the above, as of September 9, 1992, certain USDA facilities were not inspected at the required intervals as specified above. Specifically, two Category I facilities, (namely, Miles City, Montana, and Greenport, New York) had not been inspected in the previous three years; and 12 Category II facilities (Hamden, Connecticut) West Lafayette, Indiana; Morris, Montana; Raleigh, North Carolina; University Park, Pennsylvania; Brooking, South Dakota; Lubbock, Texas; Kearneysville, West Virginia; Columbia, Missouri; Wooster, Ohio; Fresno, California; and Salinas, California) had not been inspected in the previous five years; and one irradiator facility (namely, Otis Air Force Base, Massachusetts) had not been inspected in the previous three years.

This is a repetitive violation.

B. Condition 12 of License No. 19–00915–03 and Condition 13 of License No. 19–00915–06 require, in part, that sealed sources be tested for leakage and/or contamination at intervals not to exceed 6 months or at other intervals as specified by the certificate of registration, not to exceed 3 years; and that records of leak test results be maintained for inspection by the Commission.

Contrary to the above, as of September 9, 1992, 65 sealed sources had not been tested for leakage at six-month intervals, as required, and no other interval was specified by the certificates of registration. In addition, leak test results were not maintained for inspection by the Commission in that leak test records for sealed sources possessed by 13 different users were missing from 29 user files which were reviewed.

This is a repetitive violation.

C. Condition 19 of License No. 19–00915–03 requires, in part, that ash residues may be disposed of as ordinary waste provided appropriate surveys pursuant to Section 20.201 of 10 CFR Part 20 are made to determine that concentrations of licensed material appearing in the ash residues do not exceed the concentrations (in terms of microcuries per gram) specified for

water in 10 CFR Part 20, Appendix B, Table II.

Condition 25 of License No. 19–00915–3 requires that licensed material be possessed and used in accordance with statements, representations, and procedures contained in an application dated July 11, 1989 and a letter dated March 9, 1990.

Item 11.2 of the application dated July 11, 1989 requires that quarterly summaries of the records of incinerations be furnished to the radiation safety staff.

Contrary to the above, as of September 9, 1992, quarterly summaries were not furnished to the radiation safety staff during the period of July 1991 through June 1992 for seven incinerators at four sites (namely, Athens, Georgia; Clay Center, Nebraska; Fargo, North Dakota; and Ames, Iowa), and surveys of ash residues were not performed for three incinerators at three sites (namely, Clay Center, Nebraska; Grand Forks, North Dakota; and Plum Island, New York) during the period of July 1991 through June 1992 to assure that ash residue disposed of as ordinary waste did not exceed the concentrations specified for water in 10 CFR Part 20, Appendix B, Table II.

This is a repetitive violation.

D. 10 CFR 20.270(a) requires that licensed material stored in an unrestricted area be secured against unauthorized removal from the place of storage. 10 CFR 20.207(b) requires that licensed materials in an unrestricted area and not in storage be tended under constant surveillance and immediate control of the licensee. As defined in 10 CFR 20.3(a)(17), an unrestricted area is any area access to which is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials.

Contrary to the above, on September 22, 1992, licensed material consisting of a nickel-63 electron capture device in a gas chromatograph located in an unlocked storage building, an unrestricted area, at the Boll Weevil Research Laboratory in Mississippi State, Mississippi, was not secured against unauthorized removal and was not under constant surveillance and immediate control of the licensee.

This is a repetitive violation.

E. 10 CFR 20.301 requires that no licensee dispose of licensed material except by certain specified procedures. 10 CFR 20.301(a) requires that no licensee dispose of licensed material except by transfer to an authorized recipient as provided in the regulations in part 30, 40, 60, 61, 70, or 72, whichever may be applicable.

Contrary to the above, on October 31, 1991, a USDA facility in Albany, California sent a drum containing 0.51 millicuries of sulfur-35, 0.003 millicuries of carbon-14, and 0.002 millicuries of cadmium-109 to a normal landfill for disposal in the normal trash, a method not authorized by 10 CFR 20.301. In addition, as of September 2, 1992, byproduct material was routinely disposed of by transfer to other licensees (namely, Pennsylvania State University and Cornell University) who were not authorized to receive radioactive waste for disposal in University Park, Pennsylvania and Ithaca, New York.

F. Condition 25 of License No. 19–00915–03 requires that licensed material be possessed and used in accordance with statements, representations, and procedures contained in an application dated July 11, 1989, and the letter dated March 9, 1990.

1. Item 9.18 of the application dated July 11, 1989, requires, in part, that a contamination level survey be performed by permit holders at least every three months and the results be reported to the Radiation Safety Officer.

Contrary to the above, as of September 9, 1992, results of contamination level surveys performed by various permit holders every three months were not reported to the Radiation Safety Officer. Specifically, 14 permit holders failed to report the results of one or more quarterly contamination level surveys during the period of January 1991 through June 1992.

2. Item 10.4.2 of the application dated July 11, 1989, requires that licensed material be used by Radiation Safety Committee-approved users in accordance with generally accepted safe practices, the rules and procedures specified in the USDA Radiological Safety Handbook, and as specifically prescribed by the Committee and/or the Radiation Safety Officer.

Contrary to the above, as of September 9, 1992, licensed material was used in a manner different than prescribed by the Radiation Safety Committee (RSC) and/or the Radiation Safety Officer (RSO). Specifically, (1) a permit holder in Pullman, Washington authorized to possess one 50-millicurie americium-241 sealed source possessed five 50-millicurie and one 1000-millicurie americum-241 sealed sources, quantities in excess of those prescribed by the RSC or RSO; (2) a permit holder in Fargo, North Dakota authorized to use one millicurie of nickel-63, possesses an 8-millicurie sealed source of nickel-63, a quantity in excess of that prescribed by the RSC or RSO; (3) in Ithaca, New York, a permit holder possessed a source of cobalt-60 which no person performing activities under this license is authorized by the RSC or RSO to possess; and (4) in Mississippi State, Mississippi the permit holder used its irradiator for purposes other than the boll weevil studies authorized by the RSO, such as irradiation of blood, spiders, and grasshoppers.

3. Item 11.1.7 of the application dated July 11, 1989, requires that users maintain accurate inventories of radioactive materials under their control so that reports can be prepared and submitted when requested by the Radiation Safety Officer.

Contrary to the above, as of September 9, 1992, users' reports of inventories were not submitted when requested. Specifically, 7 of 18 users reviewed did not submit results of inventories requested by the Radiation Safety Officer in 1991.

G. Condition 15 of License No. 19–00915–03 requires that a physical inventory be performed every six months to account for all sources and/or devices received and possessed by the licensee, and that records of inventories be maintained for two years from the date of each inventory.

Contrary to the above, between June 15, 1990, and September 9, 1992, a period in excess of six months, physical inventories of at least 65 sealed sources were not performed and inventory records were not maintained as required.

H. 10 CFR 71.5(a) requires that licensees who transport licensed material outside the confines of their facilities or deliver licensed material to a carrier for transport comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation in 49 CFR Parts 170 through 189.

49 CFR 177.817(e)(2)(i) requires, in part, that when a driver of a motor vehicle transporting licensed material is at the vehicle's controls, the shipping paper shall be within his reach and either readily visible to a person entering the driver's compartment or in a holder which is mounted on the inside of the door on the driver's side of the vehicle.

Contrary to the above, as of September 1, 1992, a USDA employee at the University Park, Pennsylvania, facility routinely stored shipping papers in the portable gauge case during transportation to and from temporary job sites, and therefore, the shipping papers were not within the driver's reach, readily visible to a person entering the driver's compartment, or in a holder mounted on the inside of the

door on the driver's side of the vehicle during transportation of a portable gauge.

I. 10 CFR 19.12 requires, in part, that all individuals working in a restricted area are instructed in the precautions and procedures to minimize exposure to radioactive materials, in the purpose and functions of protective devices employed, and in the applicable provisions of the Commission's regulations and licenses.

Contrary to the above, as of March 5, 1992, an ancillary staff member working in a restricted area at the Pacific Southwest Research Station in Berkeley, California had not been instructed in the precautions and procedures to be followed when he performed duties in the laboratory where licensed material was used and had not been instructed in the applicable provisions of the regulations and the conditions of the license.

J. 10 CFR 19.11 (a) and (b) require, in part, that the licensee post current copies of 10 CFR Part 19, 10 CFR Part 20, the license, the license conditions, documents incorporated into the license, license amendments, and operating procedures; or, if posting of a document is not practicable, that the licensee post a notice describing these documents and where they may be examined. 10 CFR 19.11(c) requires that a licensee post Form NRC–3, "Notice to Employees". 10 CFR 21.6 requires, in part, that the licensee post current copies of 10 CFR Part 21.

Contrary to the above, on March 6, 1992, at the licensee's facility in Placerville, California, current copies of 10 CFR Parts 19 and 20 were not posted; on September 1, 1992, at the licensee's facility in University Park, Pennsylvania, a current copy of Form NRC–3 was not posted; and as of September 23, 1992, at the licensee's facilities in Mississippi State, Mississippi and Tuscaloosa, Alabama, copies of 10 CFR Part 21 were not posted.

This is a repetitive violation.

These violations are categorized in the aggregate as a Severity Level III problem. (Supplements IV and VI)

Civil Penalty—$10,000

2. Summary of Licensee Response

In its written responses, the licensee admits all of the violations. However, the licensee requests that the penalty be mitigated in its entirety. In support of its request for full mitigation, the licensee notes its commitment to an independent assessment of the Radiation Safety Program to achieve and maintain compliance with NRC requirements, as well as recent improvements in its program operations. The licensee also states that the violations do not represent a significant health and safety risk to the public, and it has taken or planned effective corrective actions.

The licensee further notes that the Enforcement Conference in January 1993 resulted in a significant elevation of the importance of the program within the licensee's organization, and its management has become involved in the program improvement plan and has committed its support to it. The licensee also indicates that it has been granted exemptions to the USDA hiring freeze for two additional health physicist positions on the radiation safety staff. In view of the above, the licensee contends that payment of the civil penalty is not necessary to assure management attention to this program or to the licensee's commitment to the improvement process.

3. NRC Evaluation of Licensee Response

The NRC has evaluated the licensee response and has determined that the licensee has not provided an adequate basis for mitigation of the civil penalty. The severity level of the violations and the civil penalty amount were determined in accordance with the NRC's Enforcement Policy and the enforcement action was consistent with action taken for similar violations by other licensees. Supplement VI.C.7 of the NRC Enforcement Policy gives as an example of a Severity Level III violation, a breakdown in the control of licensed activities involving a number of violations that are related (or, if isolated, that are recurring violations) that collectively represent a potentially significant lack of attention or carelessness toward licensed responsibilities. The NRC places great importance on management control of activities involving licensed materials to ensure that all NRC requirements are met and that any potential violation of an NRC requirement is identified and corrected expeditiously. Thus, the violations are of significant regulatory concern and were properly categorized in the aggregate as a Severity Level III problem.

Further, in determining the amount of the civil penalty for the Severity Level III problem, the NRC considered the escalation and mitigation factors set forth in the NRC Enforcement Policy. As part of that evaluation, the NRC concluded that the base civil penalty amount for this Severity Level III problem should be increased by 300% because the violations were identified by the NRC, the corrective actions were neither prompt nor comprehensive, the licensee's prior enforcement history included violations that resulted in the issuance of a $5,000 civil penalty in August 1990, and some of the violations existed for an extended duration.

With respect to the issues provided in the licensee's response as a basis for mitigation of the penalty, the NRC acknowledges that the licensee did commit to an independent assessment to improve implementation of the radiation safety program. However, this commitment was made only after these violations were identified by the NRC in 1992 and an Enforcement Conference was scheduled, notwithstanding the fact that many of these violations were repetitive, existed for an extended duration, and should reasonably have been prevented if appropriate management attention had been provided to the program after the NRC had previously conducted an enforcement conference with the licensee on July 11, 1990, and issued the $5,000 proposed civil penalty to the licensee on August 16, 1990.

The NRC acknowledges that there was a significant elevation of the importance of the program within the licensee's organization, subsequent to the more recent enforcement conference with the licensee on January 19, 1993. Further, management has apparently become involved in the program improvement plan and has committed its support to it. Nonetheless, these actions were not timely, given the licensee's existing enforcement history. If these plans for improvement had not been taken by the licensee, the NRC would have considered more significant enforcement action. The Licensee's answer and reply to a Notice of Violation provide no new information which changes the conclusion reached in the Notice.

4. NRC Conclusion

The NRC concludes that the licensee has not provided an adequate basis for mitigating any portion of the civil penalty. Accordingly, the NRC has determined that the proposed civil penalty in the amount of $10,000 should be imposed.

[FR Doc. 93–15379 Filed 6–29–93; 8:45 am]
BILLING CODE 7590–01–M

[Docket No. 50–298, License No. DPR–46 EA–93–030]

Nebraska Public Power District Cooper Nuclear Station; Order Imposing Civil Monetary Penalties

I

Nebraska Public Power District (Licensee) is the holder of NRC License

No. DPR–46 issued by the Nuclear Regulatory Commission(NRC or Commission). The license authorizes the Licensee to operate Cooper Nuclear Station in accordance with the provisions of the license.

II

An inspection of the Licensee's activities was conducted February 1–9, 1993. The results of this inspection indicated that the Licensee had not conducted its activities in full compliance with NRC requirements. A written Notice of Violation and Proposed Imposition of Civil Penalties (Notice) was served upon the Licensee by letter dated March 30, 1993. The Notice described the nature of the violations, the provisions of the NRC's requirements that the Licensee had violated, and the amount of the civil penalties proposed for the violations.

The Licensee responded to the Notice in a letter dated April 29, 1993. In its response, the Licensee admitted the violations which resulted in the proposed civil penalties, but requested mitigation for reasons that are summarized in the appendix to this Order.

III

After consideration of the Licensee's response and the statements of fact, explanation, and argument for mitigation contained therein, the NRC staff has determined, as set forth in the appendix to this Order, that the violations occurred as stated and that the penalties proposed for the violations designated in the Notice should be imposed.

IV

In view of the foregoing and pursuant to section 234 of the Atomic Energy Act of 1954, as amended (Act), 42 U.S.C. 2282, and 10 CFR 2.205, *It is hereby ordered that:*

The Licensee pay civil penalties in the amount of $200,000 within 30 days of the date of this Order, by check, draft, money order, or electronic transfer, payable to the Treasurer of the United States and mailed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555.

V

The Licensee may request a hearing within 30 days of the date of this Order. A request for a hearing should be clearly marked as a "Request for an Enforcement Hearing," and shall be addressed to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555. Copies also shall be sent to the Assistant General Counsel for Hearings and Enforcement at the same address and to the Regional Administrator, NRC Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011.

If a hearing is requested, the Commission will issue an Order designating the time and place of the hearing. If the Licensee fails to request a hearing within 30 days of the date of this Order, the provisions of this Order shall be effective without further proceedings. If payment has not been made by that time, the matter may be referred to the Attorney General for collection.

In the event the Licensee requests a hearing as provided above, the issue to be considered at such hearing shall be:

Whether, on the basis of the violations admitted by the Licensee, this Order should be sustained.

Dated at Rockville, Maryland this 23rd day of June 1993.

For the Nuclear Regulatory Commission.

James H. Sniezek,

Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research.

Appendix

Evaluation and Conclusion

On March 30, 1993, a Notice of Violation and Proposed Imposition of Civil Penalties (Notice) was issued for violations identified during an NRC inspection. Nebraska Public Power District (NPPD) responded to the Notice on April 29, 1993. NPPD admitted the violations that resulted in the proposed civil penalties, but requested mitigation. The NRC staff's evaluation and conclusion regarding NPPD's request follow:

Restatement of Violations

A. 10 CFR 50.9 requires, in part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects.

Contrary to the above, in a letter dated December 1, 1992, the licensee provided written information to the Commission that was inaccurate and incomplete in material respects. The information provided by the licensee was in response to a Notice of Violation issued by the NRC on November 3, 1992, involving the failure of the licensee to identify and remove temporary strainers in the Core Spray system. This information was inaccurate because the licensee's response stated, with respect to the Reactor Core Isolation Cooling system, that "A specific completed sign-off in the preoperational test procedure (unlike the CS System preoperational test) indicates that the strainer had been removed prior to start up testing." In fact, no such document existed indicating that the Reactor Core Isolation Cooling pump strainer had been removed. The only document which would have indicated that the strainers had been removed was Startup Test Instruction (STI) 14. On the only available copy of this document, there was no signature in the block adjacent to Step 6.2.9, which said "Remove suction strainers at a convenient time after completion of all RCIC related tests." This information was material because the NRC relied upon it as evidence that no temporary strainers existed in this system. On January 29, 1993, the Reactor Core Isolation Cooling system temporary strainer was found to have been left in the system.

This is a Severity Level III violation (Supplement VII). Civil Penalty—$100,000.

B. 10 CFR part 50, appendix B, Criterion XVI, requires in part, that measures shall be established to assure that conditions adverse to quality, such as deviations and nonconformances, are promptly identified and corrected.

Contrary to the above, between August 1992 and December 1992, measures established by the licensee to promptly identify and correct nonconformances did not assure the identification and correction of a potentially significant condition adverse to quality—the presence of temporary strainers in the Reactor Equipment Cooling and the Reactor Core Isolation Cooling systems. In response to the identification of temporary strainers in the Core Spray system in August 1992, the licensee became aware of an incomplete evaluation for temporary strainers on the Reactor Equipment Cooling system and observed unmarked spacer rings in the Reactor Equipment Cooling system, and did not identify and correct the nonconforming condition until January 1993 when a strainer was observed during corrective maintenance. In addition, the licensee became aware that there was a lack of documentation to substantiate its belief that temporary strainers in the Reactor Core Isolation Cooling system had been removed. In spite of the fact that documentation did not exist, as described in Violation A, the presence of temporary strainers, a nonconforming condition, was not identified until January 1993, following the identification of temporary strainers in the Reactor Equipment Cooling system.

This is a Severity Level III violation (Supplement I). Civil Penalty—$100,000.

Summary of NPPD's Request for Mitigation

In its April 29, 1993 letter, NPPD admitted the above violations but requested mitigation of the penalty, citing the following reasons:

1. The magnitude and extent of the corrective actions taken and planned by NPPD are such that the NRC has already achieved its objectives in the matter without imposing the civil penalties;
2. NPPD has not had an "accuracy and completeness" related violation for many years; and
3. NPPD's previous enforcement history should not reasonably lead to civil penalties of the magnitude proposed.

NRC Staff's Evaluation of Licensee's Request for Mitigation

The NRC staff's evaluation of the Licensee's arguments for mitigation follows:

1. The NRC staff recognizes that NPPD has supplemented the corrective actions it described at the enforcement conference to address the concerns that the NRC staff described in the letter transmitting the March 30, 1993 Notice regarding individual performance issues and NPPD's problem identification and resolution programs. These additional actions, while important, do not serve as evidence that the NRC staff has achieved all of its objectives in this matter. The NRC's Enforcement Policy states that civil penalties are designed to emphasize the need for lasting remedial action and to deter future (emphasis added) violations. The fact that NPPD has taken steps toward preventing future violations is encouraging. However, since the NRC's letter appears to have been the reason for NPPD having developed these steps, and since the success of NPPD's corrective actions for the 10 CFR part 50, appendix B, criterion XVI violation, which involved multiple opportunities to identify the strainer problem, remains to be determined, the NRC does not agree that these actions provide a basis for mitigation of the proposed penalties.

2. The NRC staff does not disagree with NPPD's statements about its history of compliance with 10 CFR 50.9 and the completeness and accuracy of information it has provided to the NRC staff. This information was recognized by the NRC staff in proposing the civil penalty for this violation and in fact, as alluded to in the Notice, resulted in the penalty being reduced. However, this reduction was more than offset by increases for prior opportunities to identify and NRC staff identification of the violation.

3. The NRC staff took NPPD's enforcement and performance history into account in determining the proposed penalties. As indicated above, the penalty for the violation of 10 CFR 50.9 reflected NRC staff's view that NPPD's performance in this specific area had been good. With regard to the violation of 10 CFR part 50, appendix B, criterion XVI, the penalty reflected the NRC staff's view that NPPD's corrective action programs have not been completely effective in identifying and resolving conditions adverse to quality. This was discussed on pages 4–5 of the cover letter to the Notico. Several documented weaknesses in NPPD's corrective action programs were cited in that letter. These were considered evidence of generally poor performance in identifying and resolving problems and, in accordance with the Enforcement Policy, used as a basis for increasing the penalty under the Licensee Performance factor. The NRC staff finds that NPPD's performance was adequately considered in determining the size of the penalties.

NRC Staff's Conclusion

NPPD has not provided information sufficient to cause the NRC staff to consider a reduction in the size of the proposed civil penalties. Consequently, the proposed civil penalties in the amount of $200,000 should be imposed by order.

[FR Doc. 93–15382 Filed 6–29–93; 8:45 am]
BILLING CODE 7590–01–M

[Docket No. 50–344]

Portland General Electric Co., et al.; (Trojan Nuclear Plant); Exemption

I

The Portland General Electric Company et al. (PGE or the licensee), is the holder of Facility Operating License No. NPF–1 which authorizes possession and maintenance of the Trojan Nuclear Plant (facility or plant). The licensee provides, among other things, that the plant is subject to all rules, regulations, and orders of the Commission now or hereafter in effect.

The facility is a pressurized water reactor, currently in the process of being decommissioned, and is located in Columbia County, Oregon, on the Columbia River. The plant is shut down and the reactor is defueled.

II

Title 10 of the Code of Federal Regulations, § 50.54(x) (10 CFR 50.54(x)), allows each licensee to "take reasonable action that departs from a license condition or a technical specification (contained in a license issued under this part) in an emergency when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent." Section 50.54(y) of 10 CFR states that such "action permitted by paragraph (x) of this section shall be approved, as a minimum, by a licensed senior operator prior to taking the action." The underlying purpose of 10 CFR 50.54(x) and (y) is to permit personnel to take emergency actions in response to abnormal conditions which may not have been considered when the License Conditions and Technical Specifications were formulated when approved by a senior member of the licensee staff who was technically qualified to carry out licensed activities. See 49 FR 13966 (April 1, 1983).

III

By letter dated January 27, 1993, the licensee requested an exemption from 10 CFR 50.54(y) for the Trojan Nuclear Plant. Trojan Nuclear Plant was permanently shut down on November 9, 1992, and defueling of the reactor completed on January 27, 1993. On March 24, 1993, the NRC staff issued an order confirming the commitment of the licensee dated February 17, 1993, not to move fuel back into the containment without prior NRC staff approval. On May 5, 1993, the NRC staff issued an amendment to Facility Operating License No. NPF–1 modifying the operating license to a possession only license. The licensee Certified Fuel Handler Training and Retraining Program was approved by the staff on April 27, 1993. Amendment 191 to the Trojan license permitted the licensee to replace the 10 CFR part 55 licensed operator program at the Trojan Nuclear Plant with the approved Certified Fuel Handler Training and Retraining Program. Senior Reactor Operators are no longer required at Trojan Nuclear Plant. The non-licensed Certified Fuel Handler position is the highest level of defueled plant operator, analogous to a licensed senior operator at an operational facility. Allowing a Certified Fuel Handler, in lieu of a Senior Reactor Operator, to approve the taking of actions under 10 CFR 50.54(x) for a facility with a possession only license

presents no undue risk to the public health and safety.

The licensee will assure that the underlying purpose of 10 CFR 50.54(y) is fulfilled by establishing administrative controls requiring that any emergency action permited by 10 CFR 50.54(x) must be approved, as a minimum, by a Certified Fuel Handler prior to taking the action. The administrative controls will be implemented when the proposed Technical Specification change is implemented.

The application of the regulation in the particular circumstances existing at Trojan Nuclear Plant would not serve the underlying purpose of the rule and is not necessary to achieve the underlying purpose of the rule. A Certified Fuel Handler will have appropriate technical qualifications to carry-out licensed activities under the possession only license, and a Senior Reactor operator is not necessary to approve the taking of action under 10 CFR 50.54(x). Therefore, based on the considerations stated above, the staff concludes that the request of the licensee for an exemption from the requirements of 10 CFR 50.54(y) is acceptable and should be granted.

IV

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, an exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Therefore, the Commission hereby grants the exemption request from the requirements of 10 CFR 50.54(y), for the Trojan Nuclear Plant to allow the approvals provided for therein may be granted by a certified fuel handler.

Pursuant to 10 CFR 51.32, the Commission has determined that the issuance of this exemption will have no significant impact on the quality of the human environment (58 FR 33958—June 22, 1993).

This exemption is effective upon issuance.

Dated at Rockville, Maryland this 23rd day of June 1993.

For the Nuclear Regulatory Commission.

Brian K. Grimes,

Director, Division of Operating Reactor Support, Office of Nuclear Reactor Regulation.

[FR Doc. 93–15380 Filed 6–29–93; 8:45 am]

BILLING CODE 7590–01–M

OFFICE OF PERSONNEL MANAGEMENT

Request for Clearance of a Revised Information Collection Form RI 25–7

AGENCY: Office of Personnel Management.

ACTION: Notice.

SUMMARY: In accordance with the Paperwork Reduction Act of 1980 (title 44, U.S. Code, chapter 35), this notice announces a request for clearance of a revised information collection. Form RI 25–7, Marital Status Certification, is used to determine whether widows and former spouses receiving survivor annuities from OPM have remarried before reaching age 55 and, thus, are no longer eligible for benefits from OPM.

Approximately 45,000 RI 25–7 forms are completed annually. It takes approximately 15 minutes to complete this form. The total annual burden is 11,250 hours.

For copies of this proposal, contact C. Ronald Trueworthy on (703) 908–8550.

DATES: Comments on this proposal should be received on or before July 30, 1993.

ADDRESSES: Send or deliver comments to—

Lorraine E. Dettman, Chief, Operations Support Division, Retirement and Insurance Group, U.S. Office of Personnel Management, 1900 E Street, NW., room 3349, Washington, DC 20415,

and

Joseph Lackey, OPM Desk Officer, Office of Information and Regulatory Affairs, Office of Management and Budget, New Executive Office Building, NW., room 3002, Washington, DC 20503.

FOR INFORMATION REGARDING ADMINISTRATIVE COORDINATION CONTACT: Mary Beth Smith-Toomey, Chief Administrative Management Branch, (202) 606–0616.

U.S. Office of Personnel Management.

Patricia W. Lattimore,

Acting Deputy Director.

[FR Doc. 93–15356 Filed 6–29–93; 8:45 am]

BILLING CODE 6325–01–M

RAILROAD RETIREMENT BOARD

Agency Forms Submitted for OMB Review

SUMMARY: In accordance with the Paperwork Reduction Act of 1980 (44 U.S.C. chapter 35), the Railroad Retirement Board has submitted the following proposal(s) for the collection of information to the Office of Management and Budget for review and approval.

SUMMARY OF PROPOSAL(S):

(1) *Collection title*: Request for Review of Part B Medicare Claims.

(2) *Form(s) submitted*: G–790, G–791.

(3) *OMB Number*: 3220–0100.

(4) *Expiration date of current OMB clearance*: Three years from date of OMB approval.

(5) *Type of request*: Extension of the expiration date of a currently approved collection without any change in the substance or in the method of collection.

(6) *Frequency of response*: On occasion.

(7) *Respondents*: Individuals or households.

(8) *Estimated annual number of respondents*: 4,000.

(9) *Total annual responses*: 4,100.

(10) *Average time per response*: .25 hours.

(11) *Total annual reporting hours*: 1,025.

(12) *Collection description*: The Railroad Retirement Board administers the Medicare program for persons covered by the railroad retirement system. The requests provide the means for obtaining reviews of the determinations made by Travelers on claims for Part B Medicare benefits.

ADDITIONAL INFORMATION OR COMMENTS: Copies of the form and supporting documents can be obtained from Dennis Eagan, the agency clearance officer (312–751–4693). Comments regarding the information collection should be addressed to Ronald J. Hodapp, Railroad Retirement Board, 844 North Rush Street, Chicago, Illinois 60611–2092 and the OMB reviewer, Laura Oliven (202–395–7316), Office of Management and Budget, room 3002, New Executive Office Building, Washington, DC 20503.

Dennis Eagan,

Clearance Officer.

[FR Doc. 93–15324 Filed 6–29–93; 8:45 am]

BILLING CODE 7905–01–M

SECURITIES AND EXCHANGE COMMISSION

[Release No. 34–32393A; File No. SR–Amex–93–16]

Self-Regulatory Organizations; Filing and Order Granting Accelerated Approval of Proposed Rule Change by the American Stock Exchange, Inc., To Extend Its Pilot Relating to the Use of the Auto-Ex System During Periods of Extremely High Order Flow in Equities

June 24, 1993.

Correction

In FR Document No. 93–13466, beginning on page 32161 for Tuesday, June 8, 1993, the first sentence in Column 2 was incorrectly stated. The word "no" should appear in the sentence. The sentence should read as follows: "Moreover, the Exchange allows Auto-Ex to be activated and remain in use only when the spread between the displayed bid and offer is no wider than the 'minimum fractional change' [1] and there is no potential for price improvement." [2]

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–15393 Filed 6–29–93; 8:45 am]

BILLING CODE 8010-01-M

[Release No. 34–32500; File No. SR–CBOE–93–19]

June 23, 1993.

Self-Regulatory Organizations; Notice of Filing of Proposed Rule Change by the Chicago Board Options Exchange, Inc. Relating to a Proposal To Extend Market-Maker Margin and Capital Treatment to Certain Market-Maker Orders Entered Off the Trading Floor

Pursuant to section 19(b)(1) of the Securities Exchange Act of 1934 ("Act"), 15 U.S.C. 78s(b)(1), notice is hereby given that on April 20, 1993, the Chicago Board Options Exchange, Inc. ("CBOE" or Exchange") filed with the Securities and Exchange Commission ("Commission") the proposed rule change as described in Items I, II, and III below, which Items have been prepared by the CBOE. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

I., Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change

The CBOE has submitted a proposal to amend its rules to extend market-maker capital and margin treatment to transactions resulting from orders entered from off the floor by CBOE market-makers who are subject to a requirement that at least 75% of their total transactions on the Exchange must be executed in person and not through the use of orders. The text of the proposed rule change is available at the Office of the Secretary, the CBOE, and at the Commission.

II. Self-Regulatory Organization's Statement of the Purpose of and Statutory Basis for, the Proposed Rule Change

In its filing with the Commission, the CBOE included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The CBOE has prepared summaries, set forth in sections (A), (B), and (C) below, of the most significant aspects of such statements.

(A) Self-Regulatory Organization's Statement of the Purpose of, and the Statutory Basis for, the Proposed Rule Change

The purpose of the proposed rule change is to accommodate the occasional need of CBOE market-makers to adjust or hedge options positions in their market-maker accounts at times when they are not physically present on the trading floor, without diluting the requirement that the trading activity of market-makers must be in fulfillment of their market-making obligations and must contribute to the maintenance of fair and orderly markets on the Exchange. Under current CBOE Rule 8.7 and the Interpretations adopted thereunder, all CBOE market-makers are obligated to effect not less than 75% of their total contract volume in their appointed classes of options, and to effect not less than 25% of their total transactions in person on the trading floor and not by entry of orders. In addition, Rule 8.1 currently provides that only those transactions that are initiated on the floor of the Exchange qualify for market-maker treatment under the CBOE's rules. The effect of this last requirement is to disallow market-maker treatment for opening transactions of a market-maker resulting from orders entered from off the floor, even if such orders are entered to adjust or hedge the risk of positions of the market-maker that result from his on-floor market-making activity.

The CBOE believes that limiting market-maker treatment to on-floor orders is contrary to the practical reality that market-makers cannot reasonably be expected to be physically present on the trading floor every minute of every day that the market is open. Yet, as a practical matter, that is essentially what current CBOE Rule 8.1 Rule requires. Since a market-maker cannot effectively adjust his positions or engage in hedging or other risk limiting opening transactions from off the Exchange floor without, according to the CBOE, incurring a significant economic penalty, CBOE market-makers must either be physically present on the floor at all times while the market is open, or face significant risks of adverse market movements during those times when they are absent from the trading floor. Further, current CBOE Rule 8.1 imposes a blanket disallowance of market-maker treatment for all transactions resulting from off-floor orders without regard to the overall level of commitment of the individual market-maker toward meeting his market-making responsibilities as evidenced by his record of engaging in in-person transactions. The CBOE believes that current CBOE Rule 8.1 not only disallows market-makers treatment in circumstances where the market-maker is more than adequately meeting his obligations, but by imposing costs on certain hedging or risk-adjusting transactions of market-makers, currant CBOE Rule 8.1 may actually prevent CBOE market-makers from effectively discharging their market-making obligations and may expose them to unacceptable levels of risk.

According to the CBOE, the proposed rule change would remedy this situation by imposing a more stringent in-person requirement on those market-makers who choose to receive market-maker treatment for transactions executed as a result of off-floor orders. As to these market-makers, in place of the existing 25% in-person requirement of Interpretation .03 under CBOE Rule 8.7, they would be required to satisfy the more stringent requirement that 75% of their total transactions must be executed in person and not through the use of orders. This would be in addition to their having to satisfy all of the other

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[1] Amex Rule 127 lists the minimum fractional changes for securities traded on the Exchange.

[2] See letter from Claire P. McGrath, Senior Counsel, Amex, to Mary Revell, Branch Chief, Exchange Branch, Commission, dated February 24, 1992, correcting the filing to reflect that there is no potential for price improvement when the spread between the displayed bid and offer is no wider than the minimum fractional change. The Amex stated that Auto-Ex will automatically prevent the automatic execution of orders when the spread in a security becomes wider than the minimum fractional change. See letter from Clair P. McGrath, Senior Counsel, Amex, to Mary Revell, Branch Chief, Exchange Branch, Commission, dated March 16, 1992.

existing obligations imposed on market-makers, including the requirement that 75% of their total contract volume in each calendar quarter must be in appointed classes.

The Exchange believes that this approach, as reflected in the proposed rule change, represents a more appropriate and realistic treatment of market-maker transactions initiated from off the trading floor than what is provided for under current CBOE Rule 8.1. Extending favorable margin and capital treatment for off-floor transactions only to those market-makers who submit to a 75% in-person requirement should have the effect of increasing the extent to which the transactions of market-makers contribute to liquidity and to the maintenance of fair and orderly markets on the CBOE, by providing for a greater degree of in-person trading by market-makers and by enabling market-makers to better manage the risk of their market-making activities.

The Exchange believes that the proposed rule change is consistent with section 6(b) of the Act, in general, and furthers the objectives of section 6(b)(5) in particular, in that it will promote the maintenance of fair and orderly markets on the CBOE and will contribute to the protection of investors and the public interest.

(B) Self-Regulatory Organization's Statement on Burden on Competition

The CBOE does not believe that the proposed rule change will impose any inappropriate burden on competition.

(C) Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received From Members, Participants or Others

No written comments were solicited or received with respect to the proposed rule change.

III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action

Within 35 days of the date of publication of this notice in the **Federal Register** or within such longer period (i) as the Commission may designate up to 90 days of such date if it finds such longer period to be appropriate and publishes its reasons for so finding or (ii) as to which the self-regulatory organization consents, the Commission will:

(A) By order approve such proposed rule change, or

(B) Institute proceedings to determine whether the proposed rule change should be disapproved.

IV. Solicitation of Comments

Interested persons are invited to submit written data, views and arguments concerning the foregoing. Persons making written submissions should file six copies thereof with the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549. Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for inspection and copying in the Commission's Public Reference Section, 450 Fifth Street, NW., Washington, DC. Copies of such filing will also be available for inspection and copying at the principal office of the CBOE. All submissions should refer to File No. SR–CBOE–93–19 and should be submitted by July 21, 1993.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.[1]

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–15345 Filed 6–29–93; 8:45 am]

BILLING CODE 8010–01–M

Self-Regulatory Organizations; Midwest Stock Exchange, Inc.; Application for Unlisted Trading Privileges in an Over-the-Counter Issue and To Withdraw Unlisted Trading Privileges in an Over-the-Counter Issue

June 23, 1993.

On June 14, 1993, the Midwest Stock Exchange, Inc. ("MSE") submitted an application for unlisted trading privileges ("UTP") pursuant to section 12(f)(1)(C) of the Securities Exchange Act of 1934 ("Act") in the following over-the-counter ("OTC") security, *i.e.*, a security not registered under section 12(b) of the Act.

File No.	Symbol	Issuer
7–10864	TUTR	Tro Learning Inc., Common Stock, $.01 par value.

The above-referenced issue is being applied for as a replacement for the following security, which forms a portion of the Exchange's program in which OTC securities are being traded pursuant to the granting of UTP.

The MSE also applied to withdraw UTP pursuant to section 12(f)(4) of the Act for the following issue:

File No.	Symbol	Issuer
7–10865	CLCDF	Clearly Canadian Beverage Corporation, Common Stock, No. par value.

A replacement issue is being requested due to lack of trading activity.

Comments

Interested persons are invited to submit, on or before July 14, 1993, written comments, data, views and arguments concerning this application. Persons desiring to make written comments should file three copies with the Secretary, Securities and Exchange Commission, 450 Fifth Street NW., Washington, DC 20549.

Commentators are asked to address whether they believe the requested grant of UTP as well as the withdrawal of UTP would be consistent with section 12(f)(2), which requires that, in considering an application for extension or withdrawal of UTP in an OTC security, the Commission consider, among other matters, the public trading activity in such security, the character of such trading, the impact of such extension on the existing markets for such security, and the desirability of removing impediments to and the progress that has been made toward the development of a national market system.

For the Commission, by the Division of Market Regulation, pursuant to delegated authority.

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–15346 Filed 6–29–93; 8:45 am]

BILLING CODE 8010–01–M

[Rel. No. IC–19542; File No. 812–8306]

The Guardian Insurance & Annuity Company, Inc., et al.

June 23, 1993.

AGENCY: Securities and Exchange Commission ("SEC" or "Commission").

ACTION: Notice of Application for Exemptions under the Investment Company Act of 1940 (the "1940 Act").

APPLICANTS: The Guardian Insurance & Annuity Company, Inc. ("GIAC"), The

[1] 17 CFR 200.30–3(a)(12) (1993).

Guardian Separate Account J (the "Separate Account") and Guardian Investor Services Corporation ("GISC").

RELEVANT 1940 ACT SECTIONS: Order requested under section 6(c) of the 1940 Act for exemptions from sections 2(a)(35), 26(a)(2) and 27(c)(2).

SUMMARY OF APPLICATION: Applicants seek an order to permit the deduction of a premium-based deferred sales charge in six equal annual installments from the accumulation value of certain single premium deferred variable annuity contracts (the "Contracts") and the deduction of mortality and expense risk charges from the assets of the Separate Account.

FILING DATE: Applicants filed the application on March 10, 1993 and an amendment on June 3, 1993.

HEARING OR NOTIFICATION OF HEARING: An order granting the application will be issued unless the Commission orders a hearing. Interested persons may request a hearing by writing to the SEC's Secretary and serving the Applicants with a copy of the request, personally or by mail. Hearing requests should be received by the SEC by 5:30 p.m. on July 19, 1993, and should be accompanied by proof of service on Applicants in the form of an affidavit or, for lawyers, a certificate of service. Hearing requests should state the nature of the writer's interest, the reason for the request, and the issues contested. Persons may request notification of a hearing by writing to the SEC's Secretary.

ADDRESSES: Secretary, SEC, 450 5th Street, NW., Washington, DC 20549. Applicants, The Guardian Insurance & Annuity Company, Inc., 201 Park Avenue South, New York, New York 10003.

FOR FURTHER INFORMATION CONTACT: Thomas E. Bisset, Senior Attorney, at (202) 272–2058, or Michael V. Wible, Special Counsel, at (202) 272–2060, Office of Insurance Products, Division of Investment Management.

SUPPLEMENTARY INFORMATION: Following is a summary of the application; the complete application is available for a fee from the SEC's Public Reference Branch.

Applicants' Representations

1. GIAC is a stock life insurance company incorporated under the laws of the state of Delaware on March 2, 1970. GIAC is principally engaged in the sale of life insurance and annuity policies in all 50 states and the District of Columbia. GIAC is a wholly owned subsidiary of The Guardian Life Insurance Company of America.

2. The Separate Account was established by GIAC as a separate account under the laws of the state of Delaware on February 25, 1993. The Separate Account will invest its assets in shares of a growth and income equity fund (the "Fund"), which is to be registered as a diversified, open-end management investment company. The shares of the Fund will be purchased by GIAC for the Separate Account at net asset value. All dividends and capital gains distributions received from the Fund will be reinvested by the Separate Account at net asset value. Shares of the Fund will be redeemed by GIAC at their net asset value to the extent necessary to make payments under the Contracts. A registration statement on Form N–4 has been filed to register the Contracts under the Securities Act of 1933 and to register the Separate Account as a unit investment trust under the 1940 Act.

3. GISC will serve as distributor and principal underwriter of the Contracts. In addition, the Contracts may be distributed by other broker-dealer firms that have entered into sales agreements with GISC and GIAC. The offering of the Contracts is expected to be of a limited duration (*e.g.*, 60 or 90 days). GIAC reserves the right, however, to extend the offering period or to offer the Contracts during subsequent future periods.

4. Two forms of Contract will be offered: (1) A single premium deferred contract which will be offered to individual purchasers and which is not designed to be used in connection with certain retirement plans or individual retirement accounts that qualify for favorable federal income tax treatment under the Internal Revenue Code of 1986, as amended (the "Code"); and (2) a single premium deferred contract which may be purchased and used by individual purchasers in connection with retirement plans or individual retirement accounts that qualify for favorable federal income tax treatment under the Code. Under both forms of the Contract, the purchase price is paid in one sum at the date of issue. The minimum single premium payment is $25,000.

5. The Contracts provide for the accumulation of values on a variable basis. Annuity benefits will be paid on a variable basis in conformity with the Annuity Payout Option chosen. Before the Retirement Date and while the Annuitant is living, the Contract owner is permitted to surrender the Contract for its then current Cash Surrender Value, or, subject to certain restrictions, to withdraw part of the Contract's Accumulation Value. If any Contract owner or the Annuitant dies on or prior to the Retirement Date, a death benefit is payable. The death benefit under Contracts issued with respect to Annuitants under 75 years of age is equal to the greater of (a) the Accumulation Value of the Contract, or (b) the single premium paid (less any withdrawals). For Contracts issued with respect to Annuitants 75 years of age or over, the death benefit is the Accumulation Value of the Contract.

6. GIAC will deduct an annual administration fee of $30 on each Contract Anniversary Date which occurs on or before the Retirement Date. The annual administration fee will be deducted in full upon any surrender of the Contract which occurs on a date other than a Contract Anniversary Date. The annual administration charge is guaranteed not to increase and will be used solely to compensate GIAC for the expenses it incurs to provide administrative services to Contract owners. GIAC represents that the amount to be charged is not greater than the average expected cost of the services to the provided.

7. A deferred sales charge equal to 6% of the single premium payment (the "Contract Loading") will be assessed by deducting from the Accumulation Value six equal installments of 1% of the amount of the single premium payment on each of the first through the sixth Contract Anniversary Dates. The Contract Loading compensates GIAC for expenses relating to the sale of the Contracts.

8. If a Contract is surrendered on or before the sixth Contract Anniversary Date, GIAC will deduct the amount of any unrecovered Contract Loading from the Accumulation Value to calculate the Cash surrender Value of the Contract. The Cash surrender Value will then be paid to the Contract owner. During the first six Contract years, one partial withdrawal is permitted each year. No portion of the Contract Loading is deducted from a partial withdrawal effected during the first six Contract years unless the withdrawal request is for an amount which exceeds 15% of the then Accumulation Value, in which event the withdrawal request will be treated as a request to surrender the Contract. No portion of the Contract Loading is likely to be due on annuitization of a Contract because the Retirement Date may not be earlier than the sixth Contract Anniversary Date. No Contract Loading is deducted upon payment of the Death Benefit. Because the Contract Loading is a percentage of the single premium payment, neither the investment experience of the Separate Account nor surrenders nor partial withdrawals during the first six Contract years will affect the amount of

Contract Loading to which GIAC is entitled.

9. GIAC imposes a charge to compensate it for bearing certain mortality and expense risks in connection with the Contracts. The effective annual rate of this charge is 0.95% of the value of the net assets in the Separate Account. Of that amount, approximately 0.60% is attributable to mortality risks, and approximately 0.35% is attributable to expense risks. If the mortality and expense risk charges are insufficient to cover actual costs and assumed risks, the loss will fall on GIAC. Conversely, if those charges are more than sufficient to cover costs, any excess will be profit to GIAC. GIAC anticipates a profit from those charges in the future. GIAC guarantees that the mortality and expense risk charges will never increase.

The mortality risk borne by GIAC arises from its contractual obligation to make annuity payments (determined in accordance with the annuity tables and other provisions in the Contract) regardless of how long all Annuitants or any individual Annuitant may live. This undertaking assures that neither an Annuitant's own longevity, nor an improvement in general life expectancy, will adversely affect the monthly annuity payments that the Annuitant will receive under the Contract. GIAC also incurs a risk in connection with the death benefit guarantee, for which there is no additional charge.

The expense risk assumed by GIAC is the risk the GIAC's actual administration costs will exceed the amount recovered through administrative charges.

Applicants' Legal Analysis

1. Section 6(c) of the 1940 Act authorizes the Commission to exempt any person, security or transaction, or any class or classes of persons, securities or transactions from the provisions of the 1940 Act and the rules promulgated thereunder if and to the extent that such exemption is necessary or appropriate, in the public interest, and consistent with the protection of investors and the purposes fairly intended by the policy and provisions of the 1940 Act.

2. As the proposed Contract Loading is not deducted from the single premium payment prior to the allocation of the premium payment to the Separate Account, it does not fit within the section 2(a)(35) definition of "sales load." Section 2(a)(35) of the 1940 Act, in pertinent part, defines "sales load" as the difference between the price of a security to the public and that portion of the proceeds from its sale which is received and invested, less any portion of such difference which is deducted for certain specified fees and expenses. This definition contemplates that the sales load imposed on a security of a registered investment company will be a front-end sales load. While Rule 6c–8 under the 1940 Act specifically allows the deduction of a deferred sales load upon redemption or annuitization of a variable annuity contract, the Rule does not otherwise contemplate the deduction of a sales-related charge during the term of a variable annuity contract. Thus, it could be argued that the imposition of the Contract Loading could result in an impermissible deduction from the Separate Account's assets.

3. Section 26(a)(2)(C) of the 1940 Act prohibits payments from the assets of a registered unit investment trust to its depositor or principal underwriter, except as compensation for performing certain bookkeeping and other administrative duties. Since the Contract Loading is compensation for sales-related expenses, not bookkeeping or other administrative duties, it could be argued that section 26(a)(2)(C) precludes the deduction of the Contract Loading from the Accumulation Value (*i.e.*, an identifiable portion of the assets of a registered unit investment trust) and its payment to GIAC.

4. Section 27(c)(2) of the 1940 Act prohibits a registered investment company or a depositor or underwriter for such company from selling any periodic payment plan certificate unless the proceeds of all the payments under such certificate are held by a trustee or custodian under an agreement containing in substance the provisions of section 26(a)(2). If single premium payment variable annuity contracts were treated as periodic plan certificates, it could be argued that the Separate Account, by virtue of the deduction of the Contract Loading, does not meet the requirements of section 26(a)(2)(C), and therefore that the sale of the Contracts violates Section 27(c)(2) of the 1940 Act.

5. Applicants request exemptions from sections 2(a)(35), 26(a)(2)(C) and 27(c)(2) of the 1940 Act to the extent necessary to deduct the Contract Loading in the manner described.

6. Applicants submit that the imposition of a sales load in the form of a premium-based charge that is deducted from Accumulation Value over six years is more favorable to Contract owners than the deduction of the equivalent charge as a front-end sales load as contemplated by section 2(a)(35) of the 1940 Act. First, the full amount of the single premium payment (after a deduction for premium taxes, if applicable) is available for investment in the Separate Account, thereby providing each Contract owner with more investment dollars than if the entire sales charge were deducted from the single premium payment. Second, deferring a sales charge, the amount of which will not be affected by investment experience, can benefit Contract owners by permitting them to receive any positive investment experience on the portion of the charge that is deferred. Third, the fact that the entire amount of the Contract Loading is deducted over time, rather than at issue of the Contract, can favorably affect the amount of the death benefit payable if death occurs during the first six Contract years, since unrecovered Contract Loading is not deducted from death benefit proceeds. Fourth, the total amount charged to a Contract owner is no greater than it would be if the Contract Loading were deducted directly from the single premium payment.

The Commission has previously promulgated regulations permitting the deduction of sales charges from cash values (*i.e.*, a Contract owner's identifiable interest in separate account assets), but only in connection with variable life insurance policies under rule 6e–3(T). Applicants submit that the same reasoning that justifies the exemptions provided by that Rule in connection with variable life insurance policies also justifies exemptive relief in this instance.

7. Applicants further submit that since the Contract Loading has been set at 6% of the single premium payment, it will always be lower than the 9% maximum permitted by Rule 6c–8 and the provisions of the 1940 Act regarding maximum sales loads for variable insurance products or periodic payment plan certificates (*e.g.*, section 27(a)(1) of the 1940 Act).

8. Sections 26(a)(2) and 27(c)(2) of the 1940 Act, described above, may also prohibit the deduction of the mortality and expense risk charge from the Separate Account. Applicants request exemption from these provisions to the extent necessary to deduct those charges.

9. Applicants represent that the charge of 0.95% under the Contracts made for mortality and expense risks is a reasonable and proper insurance charge. GIAC further represents that the charge of 0.95% for mortality and expense risks assumed by GIAC is within the range of industry practice with respect to comparable annuity products. This representation is based upon GIAC's analysis of publicly

available information about similar industry products, taking into consideration such factors as current charge levels, the existence of charge level guarantees, and guaranteed annuity rates. GIAC will maintain at its executive office, available to the Commission, a memorandum setting forth in detail the products analyzed in the course of, and the methodology and results of, its comparative survey.

10. Applicants acknowledge that if a profit is realized from the mortality and expense risk charge, all or a portion of such profit may be viewed by the Commission as being offset by distribution expenses not reimbursed by the Contract Loading. However, GIAC has concluded that there is a reasonable likelihood that the proposed distribution financing arrangements will benefit the Separate Account and the Contract owners. The basis for such conclusion is set forth in a memorandum which will be maintained by GIAC at its executive office and which GIAC hereby undertakes to make available to the Commission upon request.

11. GIAC also represents that the Separate Account will only invest in management investment companies which undertake, in the event any such company adopts a plan under rule 12b–1 to finance distribution expenses, to have a board of directors (or trustees), a majority of whom are not interested persons of the company, formulate and approve any such plan under rule 12b–1.

For the Commission, by the Division of Investment Management, pursuant to delegated authority.

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–15348 Filed 6–29–93; 8:45 am]

BILLING CODE 8010–01–M

[Investment Company Act Release No. 19544; 811–6112]

The Hudson Fund, Inc.; Notice of Application June 23, 1993.

AGENCY: Securities and Exchange Commission ("SEC").

ACTION: Notice of Application for Deregistration under the Investment Company Act of 1940 (the "Act").

APPLICANT: The Hudson Fund, Inc.

RELEVANT ACT SECTION: Section 8(f).

SUMMARY OF APPLICATION: Applicant seeks an order declaring it has ceased to be an investment company.

FILING DATE: The application was filed on June 3, 1993.

HEARING OR NOTIFICATION OF HEARING: An order granting the application will be issued unless the SEC orders a hearing. Interested persons may request a hearing by writing to the SEC's Secretary and serving applicant with a copy of the request, personally cr by mail. Hearing requests should be received by the SEC by 5:30 p.m. on July 19, 1993, and should be accompanied by proof of service on the applicant, in the form of an affidavit or, for lawyers, a certificate of service. Hearing requests should state the nature of the writer's interest, the reason for the request, and the issues contested. Persons may request notification of a hearing by writing to the SEC's Secretary.

ADDRESSES: Secretary, SEC, 450 Fifth Street, NW., Washington, DC 20549. Applicant, 31 West 52nd Street, New York, New York 10019.

FOR FURTHER INFORMATION CONTACT: Diane L. Titus, Paralegal Specialist, at (202) 272–3018, or Barry D. Miller, Senior Special Counsel, at (202) 272–3018 (Division of Investment Management, Office of Investment Company Regulation).

SUPPLEMENTARY INFORMATION: The following is a summary of the application. The complete application may be obtained for a fee from the SEC's Public Reference Branch.

Applicant's Representations

1. Applicant is a closed-end non-diversified management investment company incorporated under the laws of Maryland. On May 29, 1990, Applicant registered under the Act. On the same date Applicant filed a registration statement under section 8(b) of the Act and under the Securities Act of 1933. Applicant's registration statement never became effective.

2. Applicant has never made a public offering and never sold any of its securities.

3. Applicant has no shareholders, assets or liabilities. Applicant is not a party to any litigation or administrative proceeding.

4. Applicant is not now engaged, nor does it propose to engage, in any business activities other than those necessary for the winding-up of its affairs.

For the SEC, by the Division of Investment Management, under delegated authority.

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–15344 Filed 6–29–93; 8:45 am]

BILLING CODE 8010–01–M

[Investment Company Act Release No. 19543; 811–6132]

The Wilson Fund; Notice of Application

June 23, 1993.

AGENCY: Securities and Exchange Commission ("SEC").

ACTION: Notice of Application for Deregistration under the Investment Company Act of 1940 (the "Act").

APPLICANT: The Wilson Fund.

RELEVANT ACT SECTION: Section 8(f).

SUMMARY OF APPLICATION: Applicant seeks an order declaring it has ceased to be an investment company.

FILING DATE: The application was filed on June 3, 1993.

HEARING OR NOTIFICATION OF HEARING: An order granting the application will be issued unless the SEC orders a hearing. Interested persons may request a hearing by writing to the SEC's Secretary and serving applicant with a copy of the request, personally or by mail. Hearing requests should be received by the SEC by 5:30 p.m. on July 19, 1993, and should be accompanied by proof of service on the applicant, in the form of an affidavit or, for lawyers, a certificate of service. Hearing requests should state the nature of the writer's interest, the reason for the request, and the issues contested. Persons may request notification of a hearing by writing to the SEC's Secretary.

ADDRESSES: Secretary, SEC, 450 Fifth Street, NW., Washington, DC 20549. Applicant, 31 West 52nd Street, New York, New York 10019.

FOR FURTHER INFORMATION CONTACT: Diane L. Titus, Paralegal Specialist, at (202) 272–3018, or Barry D. Miller, Senior Special Counsel, at (202) 272–3018 (Division of Investment Management, Office of Investment Company Regulation).

SUPPLEMENTARY INFORMATION: The following is a summary of the application. The complete application may be obtained for a fee from the SEC's Public Reference Branch.

Applicant's Representations

1. Applicant is a closed-end non-diversified management investment company incorporated under the laws of Massachusetts. On July 2, 1990, Applicant registered under the Act. On the same date Applicant filed a registration statement under section 8(b) of the Act and under the Securities Act of 1933. Applicant's registration statement never became effective.

2. Applicant has never made a public offering and never sold any of its securities.

3. Applicant has no shareholders, assets or liabilities. Applicant is not a party to any litigation or administrative proceeding.

4. Applicant is not now engaged, nor does it propose to engage, in any business activities other than those necessary for the winding-up of its affairs.

For the SEC, by the Division of Investment Management, under delegated authority.

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–15347 Filed 6–29–93; 8:45 am]

BILLING CODE 8010–01–M

SMALL BUSINESS ADMINISTRATION

Action Subject to Intergovernmental Review

AGENCY: Small Business Administration.

ACTION: Notice of Action Subject to Intergovernmental Review Under Executive Order 12372.

SUMMARY: This notice provides for public awareness of SBA's intention to refund twenty-four existing Small Business Development Centers (SBDCs) on October 1, 1993. Currently there are 57 SBDCs operating in the SBDC program. The following SBDCs are intended to be refunded, subject to the availability of funds: Alabama, Alaska, Connecticut, Delaware, Iowa, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New York (Upstate), New York (Downstate), Ohio, Puerto Rico, Dallas, Houston, Lubbock, San Antonio, Vermont, Virgin Islands, West Virginia and Wyoming. This notice also provides a description of the SBDC program by setting forth a condensed version of the program announcement which has been furnished to each of the SBDCs to be refunded. This publication is being made to provide the State single points of contact, designated pursuant to Executive Order 12372, and other interested State and local entities, the opportunity to comment on the proposed refunding in accord with the Executive Order and SBA's regulations found at 13 CFR part 135.

EFFECTIVE DATE: September 28, 1993.

ADDRESSES: Comments should be addressed to Ms. Monika Edwards Harrison, Associate Administrator for SBDC Program, U.S. Small Business Administration, 409 Third Street, SW., Fifth Floor, Washington, DC 20416.

FOR FURTHER INFORMATION CONTACT: Same as above.

SBA is bound by the provisions of Executive Order 12372, "Intergovernmental Review of Federal Programs." SBA has promulgated regulations spelling out its obligations under that Executive Order. See 13 CFR part 135, effective September 30, 1983.

In accord with these regulations, specifically 135.4, SBA is publishing this notice to provide public awareness of the pending application of twenty-four existing Small Business Development Centers (SBDCs) for refunding. Also, published herewith is an annotated program announcement describing the SBDC program in detail.

This notice is being published three months in advance of the expected date of refunding these SBDCs. Relevant information identifying these SBDCs and providing their mailing address is provided below. In addition to this publication, a copy of this notice is being simultaneously furnished to the affected State single point of contact which has been established under the Executive Order.

The State single points of contact and other interested State and local entities are expected to advise the relevant SBDC of their comments regarding the proposed refunding in writing as soon as possible. The SBDC proposal cannot be inconsistent with any area-wide plan providing assistance to small business, if there is one, which has been adopted by an agency recognized by the State government as authorized to do so. Copies of such written comments should also be furnished to Ms. Monika Edwards Harrison, Associate Administrator for SBDC Program, U.S. Small Business Administration, 409 Third Street, SW., Fifth Floor, Washington, DC 20416. Comments will be accepted by the relevant SBDC and SBA for a period of 90 days from the date of publication of this notice. The relevant SBDC will make every effort to accommodate these comments during the 90-day period. If the comments cannot be accommodated by the relevant SBDC, SBA will, prior to refunding the SBDC, either attain accommodation of any comments or furnish an explanation of why accommodation cannot be attained to the commentor prior to refunding the SBDC.

Description of the SBDC Program

The SBDC operates under the general management and oversight of SBA, but with recognition that a partnership exists between the Agency and the SBDC for the delivery of assistance to the small business community. SBDC services shall be provided pursuant to a negotiated Cooperative Agreement with full participation of both parties. SBDCs operate on the basis of a state plan to provide assistance within a state or designated geographical area. The initial plan must have the written approval of the Governor. As a condition to any financial award made to an applicant, non-Federal funds must be provided from sources other than the Federal Government. SBDCs operate under the provisions of Public Law 96–302, as amended by Public Law 98–395, a Notice of Award (Cooperative Agreement) issued by SBA, and the provisions of this Program Announcement.

Purpose and Scope

The SBDC Program is designed to provide quality assistance to small businesses in order to promote growth, expansion, innovation, increased productivity and management improvement. To accomplish these objectives, SBDCs link resources of the Federal, State, and local governments with the resources of the educational system and the private sector to meet the specialized and complex needs of the small business community. SBDCs also coordinate with other SBA programs of business development and utilize the expertise of these affiliated resources to expand services and avoid duplication of effort.

Program Objectives

The overall objective of the SBDC Program is to leverage Federal dollars and resources with those of the state, academic community and private sector to:

(a) Strengthen the small business community;

(b) Contribute to the economic growth of the communities served;

(c) Make assistance available to more small businesses than is now possible with present Federal resources;

(d) Create a broader based delivery system to the small business community.

SBDC Program Organization

SBDCs are organized to provide maximum services to the local small business community. The lead SBDC receives financial assistance from the SBA to operate a statewide SBDC Program. In states where more than one organization receives SBA financial assistance to operate an SBDC, each lead SBDC is responsible for Program operations throughout a specific regional area to be served by the SBDC. The lead SBDC is responsible for establishing a network of SBDC subcenters to offer service coverage to the small business community. The SBDC network is managed and directed by a full-time Director. SBDCs must

ensure that at least 80 percent of Federal funds provided are used to provide services to small businesses. To the extent possible, SBDCs provide services by enlisting volunteer and other low cost resources on a statewide basis.

SBDC Services

The specific types of services to be offered are developed in coordination with the SBA district office which has jurisdiction over a given SBDC. SBDCs emphasize the provision of indepth, high-quality assistance to small business owners or prospective small business owners in complex areas that require specialized expertise. These areas may include, but are not limited to: management, marketing, financing, accounting, strategic planning, regulation and taxation, capital formation, procurement assistance, human resource management, production, operations, economic and business data analysis, engineering, technology transfer, innovation and research, new product development, product analysis, plant layout and design, agri-business, computer application, business law information, and referral (any legal services beyond basic legal information, and referral require the endorsement of the State Bar Association,) exporting, office automation, site selection, or any other areas of assistance required to promote small business growth, expansion, and productivity within the State. The SBDC shall also ensure that a full range of business development and technical assistance services are made available to small businesses located in rural areas.

The degree to which SBDC resources are directed towards specific areas of assistance is determined by local community needs, SBA priorities and SBDC Program objectives and agreed upon by the SBA district office and the SBDC.

The SBDC must offer quality training to improve the skills and knowledge of existing and prospective small business owners. As a general guideline, SBDCs should emphasize the provision of training in specialized areas other than basic small business management subjects. SBDCs should also emphasize training designed to reach particular audiences such as members of SBA priority and special emphasis groups.

SBDC Program Requirements

The SBDC is responsible to the SBA for ensuring that all programmatic and financial requirements imposed upon them by statute or agreement are met. The SBDC must assure that quality assistance and training in management and technical areas are provided to the State small business community through the State SBDC network. As a condition of this agreement, the SBDC must perform, but not be limited to, the following activities:

(a) The SBDC ensures that services are provided as close as possible to small business population centers. This is accomplished through the establishment of SBDC subcenters.

(b) The SBDC ensures that lists of local and regional private consultants are maintained at the lead SBDC and each SBDC subcenter. The SBDC utilizes and provides compensation to qualified small business vendors such as private management consultants, private consulting engineers, and private testing laboratories.

(c) The SBDC is responsible for the development and expansion of resources within the State, particularly the development of new resources to assist small business that are not presently associated with the SBA district office.

(d) The SBDC ensures that working relationships and open communications exist within the financial and investment communities, and with legal associations, private consultants, as well as small business groups and associations to help address the needs of the small business community.

(e) The SBDC ensures that assistance is provided to SBA special emphasis groups throughout the SBDC network. This assistance shall be provided to veterans, women, exporters, the handicapped, and minorities as well as any other groups designated a priority by SBA. Services provided to special emphasis groups shall be performed as part of the Cooperative Agreement.

Advance Understandings

The Lead SBDC and all SBDC subcenters shall operate on a forty (40) hour week basis, or during the normal business hours of the State or Host Organization, throughout the calendar year. The amount of time allowed the Lead SBDC and subcenters for staff vacations and holidays shall conform to the policy of the Host organization.

Dated: June 21, 1993.

Erskine B. Bowles,

Administrator.

Addresses of Relevant SBDC State Directors

Mr. John Sandefur, State Director, University of Alabama, 1717 11th Ave. South, Suite 419, Birmingham, AL 35294, (205) 934–7260

Mr. John P. O'Connor, State Director, University of Connecticut, Box U–41, Room 422, Storrs, CT 06269–2041, (203) 486–4135

Mr. Ronald Manning, State Director, Iowa State University, 137 Lynn Avenue, Ames, IA 50010, (515) 292 6351

Dr. John Baker, State Director, Northeast Louisiana University, College of Business Admin., 700 University Avenue, Monroe, LA 71209, (318) 342–5506

Mr. John Ciccarelli, State Director, University of Massachusetts, School of Management, Amherst, MA 01003, (413) 545–6301

Mr. Raleigh Byars, State Director, University of Mississippi, Old Chemistry Building, University, MS 38677, (601) 232–5001

Mr. James L. King, State Director, State University of New York, SUNY Plaza, S–523, Albany, NY 12246, (518) 443–5398

Ms. Jan Fredericks, State Director, University of Alaska/Anchorage, 430 West 7th Avenue, Suite 110, Anchorage, AK 99501, (907) 274–7232

Mr. Clinton Tymes, State Director, University of Delaware, Suite 005–Purnell Hall, Newark, DE 19711, (302) 831–2747

Ms. Janet Holloway, State Director, University of Kentucky, 225 Business & Economics Bldg., Lexington, KY 40506–0034, (606) 257–7668

Mr. Woodrow McCutchen, State Director, Department of Economic and Employment Development, 217 East Redwood St., 9th Floor, Baltimore, MD 21202 (410) 333–6995

Dr. Normal Schlafmann, State Director, Wayne State University, 2727 Second Avenue, Detroit, MI 48201, (313) 577–4848

Mr. Max Summers, State Director, University of Missouri, Suite 300, University Place, Columbia, MO 65211, (314) 882–0344

Ms. Holly Schick, State Director, Ohio Department of Development, 77 South High Street, Columbus, OH 43226–1001, (614) 466–2711

Mr. Jose Romaguera, Director, University of Puerto Rico, Box 5253–College Station, Mayaguez, PR 00708, (809) 834–3590

Dr. Elizabeth Gatewood, Region Director, University of Houston, 601 Jefferson, Suite 2330, Houston, TX 77002, (713) 752—8444

Mr. Robert McKinley, Region Director, Univ. of Texas at San Antonio, 801 South Bowie Street, San Antonio, TX 78249, (512) 224–0791

Mr. Chester Williams, Director, Univ. of the Virgin Islands, Grand Hotel Building, Annex B, P.O. Box 1087, St. Thomas, US V. Islands 00804, (809) 776–3206

Mr. Jim Glover, State Director, Casper Community College, 951 North

Poplar, Casper WY 82601, (307) 235–4825
Ms. Liz Klimback., Region Director, Dallas Community College, 1402 Corinth Street, Dallas, TX 75215, (214) 565–5833
Mr. Craig Bean, Region Director, Texas Tech University, 2579 South Loop 289, Suite 114, Lubbock, TX 79423–1637, (806) 745–3973
Mr. Donald L. Kelpinski, State Director, Vermont Technical College, P.O. Box 422, Randolph Center, VT 05060, (802) 728–9101
Ms. Hazel Kroesser, State Director, Governor's Office of Community, and Industrial Development, 1115 Virginia Street, East, Charleston, WV 25310 (304) 558–2960

[FR Doc. 93–15243 Filed 6–29–93; 8:45 am]
BILLING CODE 8025–01–M

Delegation of Authority No. 1–A (Revision 19); Delegation of Authority

Delegation of Authority No. 1–A (Revision 18) is hereby revised to read as follows:

(a) Pursuant to authority vested in me by the Small Business Act, of 1958, 72 Stat. 384, as amended is hereby delegated to the following officials in the following order:

(1) Associate Deputy Administrator for Business Development
(2) Associate Deputy Administrator for Finance, Investment and Procurement
(3) Chief of Staff
(4) Counselor to the Administrator
(5) General Counsel
(6) Associate Deputy Administrator for Management and Administration and Chief Financial Officer

to perform, in event of the absence or incapacity of the Administrator and the Deputy Administrator any and all acts which the Administrator is authorized to perform, including but not limited to authority to issue, modify, or revoke delegations of authority and regulations, except exercising authority under sections 9(d) and 11 of the Small Business Act, as amended.

(b) An individual acting in any of the positions in paragraph (a) remains in the line of succession only if he or she has been designated acting by the Administrator or Acting Administrator due to a vacancy in the position.

(c) This delegation is not in derogation of any authority residing in the above-listed officials relating to the operations of their respective programs, nor does it affect the validity of any delegations currently in force and effect and not revoked or revised herein.

Effective Date: June 30, 1993.

Dated: June 21, 1993.

Erskine B. Bowles,

Administrator.

[FR Doc. 93–15384 Filed 6–29–93; 8:45 am]
BILLING CODE 8025–01–M

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement; Allegheny County, PA

AGENCY: Federal Highway Administration (FHWA), Pennsylvania Department of Transportation (PennDOT).

ACTION: Notice of intent.

SUMMARY: The FHWA is issuing this notice to advise the public that an environmental impact statement will be prepared for a proposed highway project in the Lawrenceville section of the City of Pittsburgh in Allegheny County, Pennsylvania.

FOR FURTHER INFORMATION CONTACT: John Gerner, District Engineer, Federal Highway Administration, 228 Walnut Street, P.O. Box 1086, Harrisburg, Pennsylvania 17108–1086, Telephone: (717) 782–3411. Henry Nutbrown, P.E., District Engineer, Pennsylvania Department of Transportation, Four Parkway Center, 875 Greentree Road, Pittsburgh, Pennsylvania 15220, Telephone: (412) 937–4500.

SUPPLEMENTARY INFORMATION: The FHWA, in cooperation with the Pennsylvania Department of Transportation (PennDOT), will prepare an environmental impact statement (EIS) for the construction of a new at-grade industrial access road. The proposed road would extend from 21st Street in the Strip District of Pittsburgh, eastward through Lawrenceville to Washington Boulevard (S.R. 0008). Approximate length of the proposed roadway is 5.5 miles.

The purpose of the roadway is to relieve traffic congestion along Butler Street (S.R. 2122) and neighboring side streets by diverting traffic to the new roadway. The roadway will also support continued economic stability and redevelopment of the heavily industrialized area.

Alternatives that will be considered in the EIS include: (1.) No Action; (2.) Transportation System Management (TSM) Improvements; (3.) Upgrading Butler Street (S.R. 2122); and (4.) Construction of a new at-grade roadway on new location. A number of alignment variations of the final alternatives will be studied and incorporated into the EIS.

The following environmental areas will be investigated for inclusion in the EIS: project need, traffic, safety, air quality, noise and vibration, socioeconomics and land use, historic and archaeological sites, municipal, industrial and hazardous waste contamination, soils and geology, floodplains, surface water resources, groundwater resources, aquatic environment, wetlands, endangered species, vegetation and wildlife, agricultural lands, visual, construction impacts, energy, and Section 4(f) resources.

Letters describing the proposed EIS Plan of Study and soliciting comments will be submitted to appropriate Federal, State and local agencies and to private organizations and citizens who express interest in the project. Meetings will be held with appropriate agencies throughout the course of the project. Public meetings will be held in the project area during the summer of 1993, fall of 1993, summer of 1994 and the winter of 1995. Public notices of the time and place of these meetings and the public hearing will be given in a timely fashion. Additional public involvement and interagency coordination activities will be undertaken, as necessary, throughout the development of the EIS. The draft EIS will be available for public and agency review and comment prior to the public hearing.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments and questions concerning the proposed action should be directed to the FHWA at the address provided above.

(Catalogue of Federal Domestic Assistance Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal Programs and activities apply to this program.)

Philibert A. Ouellet,

District Engineer, Harrisburg, Pennsylvania.

[FR Doc. 93–15325 Filed 6–29–93; 8:45 am]
BILLING CODE 4910–22–M

Maritime Administration

[Docket No. S–890]

Lykes Brothers Steamship Co., Inc.; Show-Cause Proceeding

This docket concerns the application, under section 605(c) of the Merchant Marine Act, 1936, as amended (46 App. U.S.C. 1175(c)) (the Act), of Lykes Bros.

Steamship Co., Inc. (Lykes) to generally conform its Trade Routes (TR) 21 (U.S. Gulf/United Kingdom and Northern Europe), 13 (U.S. Gulf and South Atlantic/Mediterranean), 10 (U.S. North Atlantic/Mediterranean), and Trade Area (TA) 4 (U.S. Great Lakes/Mediterranean, India, Persian Gulf and Red Sea) subsidized service authority, to the service description of TR 1 (U.S./Europe, Mediterranean), as redefined by Docket R–111, Notice of Final Determination of Essential Trade Routes, Docket No. R–111, 52 FR 17,879, 24 SRR 177, 181 (MA 1987). The Maritime Subsidy Board (Board) has rendered its decision, pursuant to 46 CFR 203.5(c), in the form of an Order (which is available from the Secretary, Maritime Administration, room 7300, 400 Seventh Street, SW. Washington, DC 20590) setting forth tentative conclusions on all matters of fact and law at issue in this proceeding which are quoted verbatim as follows:

1. Lykes' Application is one for additional service within the meaning of the first clause of section 605(c);

2. Farrell's concerns have been addressed by retaining the existing maximum sailing limitations from North and South Atlantic ports to the Mediterranean per the revised service description set forth below;

3. All issues of fact and law arising under this Application, as limited herein, may be appropriately addressed by means of a show cause procedure provided for in the Board's rule at 46 CFR part 203;

4. The U.S.-flag service on TR 1, and individual segments thereof, is presently inadequate, and is expected to remain inadequate for the remaining term of Lykes' ODS contract;

5. Grant of Lykes' application will further the purposes and policy of the Act.

The foregoing tentative conclusions will be issued in final form, unless within thirty days of the date of publication of this notice, interested persons show cause why such conclusions should not be issued. Persons having an interest in the application and who desire to comment or show cause may do so by filing a submission, including support or rebuttal of the tentative conclusions set forth above, in triplicate, with the Secretary, Maritime Subsidy Board, room 7300, 400 Seventh Street, SW., Washington, DC 20590 by the close of business on or before thirty days from the date of the publication of this notice.

Response to such comments shall be filed within ten days thereafter. The Board will consider the submissions of all interested persons and determine the disposition to be made of matters hereby noticed.

By Order of the Maritime Subsidy Board.

Dated: June 24, 1993.

James E. Saari,

Secretary.

[FR Doc. 93–15353 Filed 6–29–93; 8:45 am]

BILLING CODE 3510-25-P

National Highway Traffic Safety Administration

[Docket No. 93–26; Notice 2]

Determination That Nonconforming 1993 BMW 750iL Passenger Cars are Eligible for Importation

AGENCY: National Highway Traffic Safety Administration (NHTSA), DOT.

ACTION: Notice of determination by NHTSA that nonconforming 1993 BMW 750iL passenger cars are eligible for importation.

SUMMARY: This notice announces the determination by NHTSA that 1993 BMW 750iL passenger cars not originally manufactured to comply with all applicable Federal motor vehicle safety standards are eligible for importation into the United States because they are substantially similar to a vehicle originally manufactured for importation into and sale in the United States and certified by its manufacturer as complying with the safety standards (the U.S.-certified version of the 1993 BMW 750iL), and they are capable of being readily modified to conform to the standards.

DATES: The determination is effective June 30, 1993.

FOR FURTHER INFORMATION CONTACT: Ted Bayler, Office of Vehicle Safety Compliance, NHTSA (202–366–5306).

SUPPLEMENTARY INFORMATION:

Background

Under section 108(c)(3)(A)(i) of the National Traffic and Motor Vehicle Safety Act (the Act), 15 U.S.C. 1397(c)(3)(A)(i), a motor vehicle that was not originally manufactured to conform to all applicable Federal motor vehicle safety standards must be refused admission into the United States on and after January 31, 1990, unless NHTSA has determined that the motor vehicle is substantially similar to a motor vehicle originally manufactured for importation into and sale in the United States, certified under section 114 of the Act, and of the same model year as the model of the motor vehicle to be compared, and is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards.

Petitions for eligibility determinations may be submitted by either manufacturers or importers who have registered with NHTSA pursuant to 49 CFR part 592. As specified in 49 CFR 593.7, NHTSA publishes notice in the Federal Register of each petition that it receives, and affords interested persons an opportunity to comment on the petition. At the close of the comment period, NHTSA determines, on the basis of the petition and any comments that it has received, whether the vehicle is eligible for importation. The agency then publishes this determination in the Federal Register.

Liphardt & Associates, Inc. of Ronkonkoma, New York (Registered Importer R–90–004) petitioned NHTSA to determine whether 1993 BMW 750iL passenger cars are eligible for importation into the United States. NHTSA published notice of the petition on April 30, 1993 (58 FR 26180) to afford an opportunity for public comment. The reader is referred to that notice for a thorough description of the petition. No comments were received in response to the notice. Based on its review of the information submitted by the petitioner, NHTSA has determined to grant the petition.

Vehicle Eligibility Number for Subject Vehicles

The importer of a vehicle admissible under any final determination must indicate on the form HS–7 accompanying entry the appropriate vehicle eligibility number indicating that the vehicle is eligible for entry. VSP #41 is the vehicle eligibility number assigned to vehicles admissible under this determination.

Final Determination

Accordingly, on the basis of the foregoing, NHTSA hereby determines that a 1993 BMW 750iL not originally manufactured to comply with all applicable Federal motor vehicle safety standards is substantially similar to a 1993 BMW 750iL originally manufactured for importation into and sale in the United States and certified under section 114 of the National Traffic and Motor Vehicle Safety Act, and is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards.

Authority: 15 U.S.C. 1397(c)(3)(A)(i)(I) and (C)(ii); 49 CFR 593.8; delegations of authority at 49 CFR 1.50 and 501.8.

Issued on: June 24, 1993.

William A. Boehly,

Associate Administrator for Enforcement.

[FR Doc. 93–15411 Filed 6–29–93; 8:45 am]

BILLING CODE 4910–59–M

[Docket No. 93–27; Notice 2]

Determination That Nonconforming 1986 Volkswagen Scirocco Passenger Cars Are Eligible for Importation

AGENCY: National Highway Traffic Safety Administration (NHTSA) DOT.

ACTION: Notice of determination by NHTSA that nonconforming 1986 Volkswagen Scirocco passenger cars are eligible for importation.

SUMMARY: This notice announces the determination by NHTSA that 1986 Volkswagen Scirocco passenger cars not originally manufactured to comply with all applicable Federal motor vehicle safety standards are eligible for importation into the United States because they are substantially similar to a vehicle originally manufactured for importation into and sale in the United States and certified by its manufacturer as complying with the safety standards (the U.S.-certified version of the 1986 Volkswagen Scirocco), and they are capable of being readily modified to conform to the standards.

DATES: The determination is effective as of June 30, 1993.

FOR FURTHER INFORMATION CONTACT: Ted Bayler, Office of Vehicle Safety Compliance, NHTSA (202–366–5306).

SUPPLEMENTARY INFORMATION:

Background

Under section 108(c)(3)(A)(i) of the National Traffic and Motor Vehicle Safety Act (the Act), 15 U.S.C. 1397(c)(3)(A)(i), a motor vehicle that was not originally manufactured to conform to all applicable Federal motor vehicle safety standards must be refused admission into the United States on and after January 31, 1990, unless NHTSA has determined that the motor vehicle is substantially similar to a motor vehicle originally manufactured for importation into and sale in the United States, certified under section 114 of the Act, and of the same model year as the model of the motor vehicle to be compared, and is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards.

Petitions for eligibility determinations may be submitted by either manufacturers or importers who have registered with NHTSA pursuant to 49 CFR part 592. As specified in 49 CFR 593.7, NHTSA publishes notice in the **Federal Register** of each petition that it receives, and affords interested persons an opportunity to comment on the petition. At the close of the comment period, NHTSA determines, on the basis of the petition and any comments that it has received, whether the vehicle is eligible for importation. The agency then publishes this determination in the **Federal Register.**

Wallace Environmental Testing Laboratories, Inc. of Houston, Texas (Registered Importer R–90–005) petitioned NHTSA to determine whether 1986 Volkswagen Scirocco passenger cars are eligible for importation into the United States. NHTSA published notice of the petition on May 4, 1993 (58 FR 26584) to afford an opportunity for public comment. The reader is referred to that notice for a thorough description of the petition. No comments were received in response to the notice. Based on its review of the information submitted by the petitioner, NHTSA has determined to grant the petition.

Vehicle Eligibility Number for Subject Vehicles

The importer of a vehicle admissible under any final determination must indicate on the form HS–7 accompanying entry the appropriate vehicle eligibility number indicating that the vehicle is eligible for entry. VSP #42 is the vehicle eligibility number assigned to vehicles admissible under this determination.

Final Determination

Accordingly, on the basis of the foregoing, NHTSA hereby determines that a 1986 Volkswagen Scirocco not originally manufactured to comply with all applicable Federal motor vehicle safety standards is substantially similar to a 1986 Volkswagen Scirocco originally manufactured for importation into and sale in the United States and certified under section 114 of the National Traffic and Motor Vehicle Safety Act, and is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards.

Authority: 15 U.S.C. 1397(c)(3)(A)(i)(I) and (C)(ii); 49 CFR 593.8; delegations of authority at 49 CFR 1.50 and 501.8.

Issued on: June 24, 1993.

William A. Boehly,

Associate Administrator for Enforcement.

[FR Doc. 93–15412 Filed 6–29–93; 8:45 am]

BILLING CODE 4910–59–M

[Docket No. 93–30; Notice 2]

Determination That Nonconforming 1981 Volvo 262C Passenger Cars Are Eligible for Importation

AGENCY: National Highway Traffic Safety Administration (NHTSA), DOT.

ACTION: Notice of determination by NHTSA that nonconforming 1981 Volvo 262C passenger cars are eligible for importation.

SUMMARY: This notice announces the determination by NHTSA that 1981 Volvo 262C passenger cars not originally manufactured to comply with all applicable Federal motor vehicle safety standards are eligible for importation into the United States because they are substantially similar to a vehicle originally manufactured for importation into and sale in the United States and certified by its manufacturer as complying with the safety standards (the U.S.-certified version of the 1981 Volvo 262C), and they are capable of being readily modified to conform to the standards.

DATES: The determination is effective as of June 30, 1993.

FOR FURTHER INFORMATION CONTACT: Ted Bayler, Office of Vehicle Safety Compliance, NHTSA (202–366–5306).

SUPPLEMENTARY INFORMATION:

Background

Under section 108(c)(3)(A)(i) of the National Traffic and Motor Vehicle Safety Act (the Act), 15 U.S.C. 1397(c)(3)(A)(i), a motor vehicle that was not originally manufactured to conform to all applicable Federal motor vehicle safety standards must be refused admission into the United States on and after January 31, 1990, unless NHTSA has determined that the motor vehicle is substantially similar to a motor vehicle originally manufactured for importation into and sale in the United States, certified under section 114 of the Act, and of the same model year as the model of the motor vehicle to be compared, and is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards.

Petitions for eligibility determinations may be submitted by either manufacturers or importers who have registered with NHTSA pursuant to 49 CFR part 592. As specified in 49 CFR 593.7, NHTSA publishes notice in the **Federal Register** of each petition that it receives, and affords interested persons an opportunity to comment on the petition. At the close of the comment period, NHTSA determines, on the basis of the petition and any comments that

it has received, whether the vehicle is eligible for importation. The agency then publishes this determination in the **Federal Register.**

Wallace Environmental Testing Laboratories, Inc. of Houston, Texas (Registered Importer R–90–005) petitioned NHTSA to determine whether 1981 Volvo 262C passenger cars are eligible for importation into the United States. NHTSA published notice of the petition on May 4, 1993 (58 FR 26583) to afford an opportunity for public comment. The reader is referred to that notice for a thorough description of the petition. No comments were received in response to the notice. Based on its review of the information submitted by the petitioner, NHTSA has determined to grant the petition.

Vehicle Eligibility Number for Subject Vehicles

The importer of a vehicle admissible under any final determination must indicate on the form HS–7 accompanying entry the appropriate vehicle eligibility number indicating that the vehicle is eligible for entry. VSP #43 is the vehicle eligibility number assigned to vehicles admissible under this determination.

Final Determination

Accordingly, on the basis of the foregoing, NHTSA hereby determines that a 1981 Volvo 262C not originally manufactured to comply with all applicable Federal motor vehicle safety standards is substantially similar to a 1981 Volvo 262C originally manufactured for importation into and sale in the United States and certified under section 114 of the National Traffic and Motor Vehicle Safety Act, and is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards.

Authority: 15 U.S.C. 1397(c)(3)(A)(i)(I) and (C)(ii); 49 CFR 593.8; delegations of authority at 49 CFR 1.50 and 501.8.

Issued: June 24, 1993.

William A. Boehly,

Associate Administrator for Enforcement.

[FR Doc. 93–15413 Filed 6–29–93; 8:45 am]

BILLING CODE 4910-59-M

[Docket No. 93–45; Notice 1]

Receipt of Petition for Determination That Nonconforming 1971 Daimler Limousine DR420 Passenger Cars Are Eligible for Importation

AGENCY: National Highway Traffic Safety Administration, DOT.

ACTION: Notice of receipt of petition for determination that nonconforming 1971 Daimler Limousine DR420 passenger cars are eligible for importation.

SUMMARY: This notice requests comments on a petition submitted to the National Highway Traffic Safety Administration (NHTSA) for a determination that a 1971 Daimler Limousine DR420 passenger car that was not originally manufactured to comply with all applicable Federal motor vehicle safety standards is eligible for importation into the United States because it has safety features that comply with, or are capable of being modified to comply with, those standards.

DATES: The closing date for comments on the petition is July 30, 1993.

ADDRESSES: Comments should refer to the docket number and notice number, and be submitted to: Docket Section, room 5109, National Highway Traffic Safety Administration, 400 Seventh Street, SW., Washington, DC 20590. [Docket hours are from 9:30 a.m. to 4 p.m.].

FOR FURTHER INFORMATION CONTACT: Ted Bayler, Office of Vehicle Safety Compliance, NHTSA (202–366–5306).

SUPPLEMENTARY INFORMATION:

Background

Under section 108(c)(3)(A)(i) of the National Traffic and Motor Vehicle Safety Act (the Act), 15 U.S.C. 1397(c)(3)(A)(i), a motor vehicle that was not originally manufactured to conform to all applicable Federal motor vehicle safety standards shall be refused admission into the United States on and after January 31, 1990, unless NHTSA has determined that the motor vehicle is substantially similar to a motor vehicle originally manufactured for importation into and sale in the United States, certified under section 114 of the Act, and of the same model year as the model of the motor vehicle to be compared, and is capable of being readily modified to conform to all applicable Federal motor vehicle safety standards. Where there is no substantially similar U.S.-certified vehicle, a vehicle that does not conform to all applicable Federal motor vehicle safety standards may be admitted into the United States if NHTSA determines that the safety features of the vehicle comply with, or are capable of being modified to comply with, those standards based on destructive test data or such other evidence that NHTSA determines to be adequate.

Petitions for eligibility determinations may be submitted by either manufacturers or importers who have registered with NHTSA pursuant to 49 CFR part 592. As specified in 49 CFR 593.7, NHTSA publishes notice in the **Federal Register** of each petition that it receives, and affords interested persons an opportunity to comment on the petition. At the close of the comment period, NHTSA determines, on the basis of the petition and any comments that it has received, whether the vehicle is eligible for importation. The agency then publishes this determination in the **Federal Register.**

ICI International, Inc. of Orlando, Florida ("ICI") (Registered Importer R–90–003) has petitioned NHTSA to determine whether 1971 Daimler Limousine DR420 passenger cars that were not originally manufactured in conformity with all applicable Federal motor vehicle safety standards are eligible for importation into the United States. The petitioner contends that this vehicle has safety features that comply with, or are capable of being modified to comply with, all applicable safety standards.

Specifically, the petitioner claims that the 1971 Daimler Limousine DR420 complies with Standards Nos. 102 *Transmission Shift Lever Sequence * * **.*, 103 *Defrosting and Defogging Systems*, 104 *Windshield Wiping and Washing Systems*, 105 *Hydraulic Brake Systems*, 106 *Brake Hoses*, 107 *Reflecting Surfaces*, 109 *New Pneumatic Tires*, 111 *Rearview Mirrors*, 112 *Headlamp Concealment Devices*, 113 *Hood Latch Systems*, 116 *Brake Fluid*, 201 *Occupant Protection in Interior Impact*, 203 *Impact Protection for the Driver From the Steering Control System*, 204 *Steering Control Rearward Displacement*, 205 *Glazing Materials*, 206 *Door Locks and Door Retention Components*, 207 *Seating Systems*, 211 *Wheel Nuts, Wheel Discs and Hubcaps*, and 212 *Windshield Retention.*

Petitioner also contends that the 1971 Daimler Limousine DR420 is capable of being modified to meet the following standards, in the manner indicated:

Standard No. 101 *Controls and Displays*: Substitution of a lens marked "Brake" for a lens with an ECE symbol on the brake failure indicator lamp.

Standard No. 108 *Lamps, Reflective Devices and Associated Equipment*: (a) Installations of U.S.-model headlamp assemblies with sealed beam headlamps and front side markers; (b) installation of U.S.-model tail lamp assemblies and rear side markers.

Standard No. 110 *Tire Selection and Rims*: Installation of a tire information placard.

Standard No. 114 *Theft Protection*: Installation of a buzzer microswitch in the steering lock assembly, and a warning buzzer.

Standard No. 115 *Vehicle Identification Number*: Installation of a VIN plate that can be read from outside the left windshield pillar.

Standard No. 202 *Head Restraints*: Installation of head restraints at each outboard front seating position.

Standard No. 208 *Occupant Crash Protection*: (a) Installation of lap belts in each of the two rear seating positions; (b) installation of a placard on the inside surface of the driver's door stating that the vehicle has a total seating capacity of four.

Standard No. 209 *Seat Belt Assemblies*: Installation of two rear seat belt assemblies that are permanently and legibly labeled by its original manufacturer.

Standard No. 210 *Seat Belt Assembly Anchorages*: Installation of seat belt assembly anchorages at the two rear seating positions by bolting them in three different locations to the crossmember and frame under the rear seat.

Standard No. 301 *Fuel System Integrity*: Installation of a rollover valve in the fuel tank vent line between the fuel tank and the evaporative emissions collection canister.

Interested persons are invited to submit comments on the petition described above. Comments should refer to the docket number and be submitted to: Docket Section, National Highway Traffic Safety Administration, room 5109, 400 Seventh Street, SW., Washington, DC 20590. It is requested but not required that 10 copies be submitted.

All comments received before the close of business on the closing date indicated above will be considered, and will be available for examination in the docket at the above address both before and after that date. To the extent possible, comments filed after the closing date will also be considered. Notice of final action on the petition will be published in the **Federal Register** pursuant to the authority indicated below.

Authority: 15 U.S.C. 1397(c)(3)(A)(i)(II) and (C)(ii); 49 CFR 593.8; delegations of authority at 49 CFR 1.50 and 501.8.

Issued on: June 24, 1993.

William A. Boehly,

Associate Administrator for Enforcement.

[FR Doc. 93–15414 Filed 6–29–93; 8:45 am]

BILLING CODE 4910–59–M

DEPARTMENT OF THE TREASURY

Public Information Collection Requirements Submitted to OMB for Review

Date: June 24, 1993.

The Department of Treasury has submitted the following public information collection requirement(s) to OMB for review and clearance under the Paperwork Reduction Act of 1980, Public Law 96–511. Copies of the submission(s) may be obtained by calling the Treasury Bureau Clearance Officer listed. Comments regarding this information collection should be addressed to the OMB reviewer listed and to the Treasury Department Clearance Officer, Department of the Treasury, Room 3171 Treasury Annex, 1500 Pennsylvania Avenue, NW., Washington, DC 20220.

Internal Revenue Service

OMB Number: 1545–0062.
Form Number: IRS Forms 3903 and 3903F.
Type of Review: Extension.
Title: Moving Expense and Foreign Moving Expenses.
Description: Internal Revenue Code (IRC) Section 217 requires itemization of various allowable moving expenses. IRC Section 274(n) limits certain meal expenses to 80%. Forms 3903 and 3903F are filed with Form 1040 by individuals claiming employment related moves. The data is used to help verify that the expenses are deductible and that the deduction is computed correctly.
Respondents: Individuals or households.
Estimated Number of Respondents/ Recordkeepers: 1,607,278.
Estimated Burden Hours Per Respondent/Recordkeeper:
Recordkeeping—1 hour, 5 minutes.
Learning about the law or the form—7 minutes.
Preparing the form—31 minutes.
Copying, assembling, and sending the form to the IRS—20 minutes.
Frequency of Response: Annually.
Estimated Total Reporting/ Recordkeeping Burden: 3,295,539 hours.

OMB Number: 1545–0072.
Form Number: IRS Form 2119.
Type of Review: Revision.
Title: Sale of Your Home.
Description: Individuals who sell their main home use Form 2119, even if they had a loss, and whether or not they buy a new main home. The form is also used by taxpayers age 55 or older who elect to exclude the gain on the sale of their main home. The information is used to determine whether or not the sale has been reported correctly.
Respondents: Individuals or households.
Estimated Number of Respondents/ Recordkeepers: 1,377,000.
Estimated Burden Hours Per Respondent/Recordkeeper:
Recordkeeping—46 minutes.
Learning about the law or the form—17 minutes.
Preparing the form—55 minutes.
Copying, assembling, and sending the form to the IRS—20 minutes.
Frequency of Response: Annually.
Estimated Total Reporting/ Recordkeeping Burden: 3,167,100 hours.

OMB Number: 1545–0121.
Form Number: IRS Form 1116.
Type of Review: Extension.
Title: Foreign Tax Credit—Individual, Fiduciary, or Nonresident Alien Individual.
Description: Form 1116 is used by individuals (including nonresident aliens) and fiduciaries who paid foreign income taxes on U.S. taxable income, to compute the foreign tax credit. This information is used by IRS to verify the foreign tax credit.
Respondents: Individuals or households.
Estimated Number of Respondents/ Recordkeepers: 589,900.
Estimated Burden Hours Per Respondent/Recordkeeper:
Recordkeeping—2 hours, 44 minutes.
Learning about the law or the form—48 minutes.
Preparing the form—1 hour, 53 minutes.
Copying, assembling, and sending the form to the IRS—55 minutes.
Frequency of Response: Annually.
Estimated Total Reporting/ Recordkeeping Burden: 3,415,521 hours.

OMB Number: 1545–0227.
Form Number: IRS Form 6251.
Type of Review: Revision.
Title: Alternative Minimum Tax—Individuals.
Description: Form 6251 is used by individuals with adjustments, tax preference items, taxable income above certain exemption amounts, or certain credits. Form 6251 computes the alternative minimum tax which is added to regular tax. The information is needed to ensure the taxpayer is complying with the law.
Respondents: Individuals or households.
Estimated Number of Respondents/ Recordkeepers: 225,622.
Estimated Burden Hours Per Respondent/Recordkeeper:

Recordkeeping—2 hours, 17 minutes.
Learning about the law or the form—1 hour, 13 minutes.
Preparing the form—1 hour, 43 minutes.
Copying, assembling, and sending the form to the IRS—20 minutes.
Frequency of Response: Annually.
Estimated Total Reporting/Recordkeeping Burden: 1,252,202 hours.

OMB Number: 1545–1032.
Form Number: IRS Form 8689.
Type of Review: Extension.
Title: Allocation of Individual Income Tax to the Virgin Islands.
Description: Used by U.S. citizens or residents as an attachment to Form 1040 when they have Virgin Islands source income. The data is used by IRS to verify the amount claimed on Form 1040 for taxes paid to the Virgin Islands.
Respondents: Individuals or households, Businesses or other for-profit, Small businesses or organizations.
Estimated Number of Respondents/Recordkeepers: 800.
Estimated Burden Hours Per Respondents/Recordkeeper:
Recordkeeping—33 minutes.
Learning about the law or the form—18 minutes.
Preparing the form—59 minutes.
Copying, assembling, and sending the form to the IRS—20 minutes.
Frequency of Response: Annually.
Estimated Total Reporting/Recordkeeping Burden: 1,736 hours.

OMB Number: 1545–1073.
Form Number: IRS Form 8801.
Type of Review: Revision.
Title: Credit For Prior Year Minimum Tax—Individuals and Fiduciaries.
Description: Form 8801 is used by individuals, estates, and trusts to compute the minimum tax credit, if any, available from a tax year beginning after 1986 to be used in the current year or to be carried forward for use in a future year.
Respondents: Individuals or households.
Estimated Number of Respondents/Recordkeepers: 38,744.
Estimated Burden Hours Per Respondent/Recordkeeper:
Recordkeeping—1 hour, 33 minutes.
Learning about the law or the form—1 hour, 3 minutes.
Preparing the form—1 hour.
Copying, assembling, and sending the form to the IRS—17 minutes.
Frequency of Response: Annually.
Estimated Total Reporting/Recordkeeping Burden: 150,714.

OMB Number: 1545–1173.
Form Number: IRS Form 8815.
Type of Review: Extension.
Title: Exclusion of Interest From Series EE U.S. Savings Bonds Issued After 1989.
Description: If an individual redeems series EE U.S. Savings Bonds issued after 1989 and pays qualified higher education expenses during the year, the interest on the bonds may be excludable from income. Form 8815 is used by the individual to figure the amount of savings bond interest that is excludable.
Respondents: Individuals or households.
Estimated Number of Respondents/Recordkeepers: 25,000.
Estimated Burden Hours Per Respondent/Recordkeeper:
Recordkeeping—53 minutes.
Learning about the law or the form—11 minutes.
Preparing the form—35 minutes.
Copying, assembling, and sending the form to the IRS—34 minutes.
Frequency of Response: Annually.
Estimated Total Reporting/Recordkeeping Burden: 50,420 hours.
Clearance Officer: Garrick Shear (202) 622–3869, Internal Revenue Service, room 5571, 1111 Constitution Avenue, NW., Washington, DC 20244.
OMB Reviewer: Milo Sunderhauf (202) 395–6880, Office of Management and Budget, room 3001, New Executive Office Building, Washington, DC 20503.

Lois K. Holland,
Departmental Reports Management Officer.
[FR Doc. 93–15396 Filed 6–29–93; 8:45 am]
BILLING CODE 4830–01–M

Departmental Offices

Rechartering of the Treasury Borrowing Committee of the Public Securities Association

AGENCY: Departmental Offices, Treasury Department.

ACTION: Notice of determination of necessity for renewal of the Treasury Borrowing Advisory Committee of the Public Securities Association.

SUMMARY: It is in the public interest to continue the existence of the Treasury Borrowing Advisory Committee of the Public Securities Association.

The Department of the Treasury announces the renewal of the charter for the Treasury Borrowing Advisory Committee of the Public Securities Association in accordance with the Federal Advisory Committee Act, 5 U.S.C. app. I.

The Secretary of the Treasury has determined that the renewal of this committee is necessary and in the public interest. This determination follows consultation with the Committee Management Secretariat, General Services Administration.

Purpose

The committee provides informed advice as representatives of the financial community to the Secretary of the Treasury and Treasury staff, upon the Secretary of the Treasury's request, in carrying out Federal financing and in the management of the public debt.

Scope

The committee considers commercial and financial information relevant to its objectives and consults with and advises the Secretary of the Treasury and Treasury staff with respect to debt management operations, and makes reports and recommendations.

Meetings are closed to the public since all portions of the meeting concern matters that are exempt from disclosure under the provision of subsection 552b (c)(4) and (c)(9)(A)(i) of title 5 of the United States Code, and that the public interest requires that such meetings be closed to the public.

The advice consists of commercial and financial information given and received in confidence. As such, debt management advisory committee activities concern matters which fall with the exception covered by subsection 552b(c)(4) of title 5 of the United States Code for matters which are "trade secrets and commercial or financial information obtained from a person and privileged or confidential."

Although Treasury's final announcement of financing plans may not reflect the recommendation provided in reports of an advisory committee, premature disclosure of these reports would lead to significant financial speculation in the securities markets. Thus, these meetings also fall within the exception covered by subsection 552(b)(c)(9)(A)(i) of title 5 of the United States Code.

Membership consists of 20–25 members who are experts in Government securities markets, involved in a senior position in debt markets as investor, investment advisor, banker or as a dealer, bank or non-bank in debt securities and are appointed by the Public Securities Association from its association membership. Members must be highly competent, experienced and actively involved in financial markets. Effort is made to get regional representation so that committee views are a reasonable proxy for nationwide views. As far as possible, balance between bank and non-bank dealers is

sought. From time to time, members are added or deleted to reflect changing responsibilities and to provide for a rotation of membership in areas where more than one qualified candidate may be available.

Statement of Public Interest

It is in the public interest to continue the existence of the Treasury Borrowing Advisory Committee of the Public Securities Association. The Secretary of the Treasury, with the concurrence of the General Services Administration, has also approved renewal of the committee.

Authority for this committee will expire two years from the date the charter is filed with the appropriate Congressional committees, unless prior to the expiration of its charter, the committee is renewed.

The Assistant Secretary (Management) has determined that this document is not a major rule as defined in Executive Order 12291 and that a regulatory impact analysis therefore is not required. Neither does this document constitute a rule subject to the Regulatory Flexibility Act (5 U.S.C. chapter 6).

In accordance with the Federal Advisory Committee Act (Pub. L. 92–463) the Department of the Treasury has renewed the charter of the Treasury Borrowing Advisory Committee of the Public Securities Association and approved the following membership:

Daniel A. Ahearn, Partner, Wellington Management Co., 75 State Street, Boston, MA 02109.
Thomas Bennett, Partner, Miller Anderson & Sherrerd, One Tower Bridge, West Conshohocken, PA 19428.
Louis Betanzos, Executive Vice President, National Bank of Detroit, 611 Woodward Avenue, Detroit, MI 48226.
Jon S. Corzine, Partner, Goldman, Sachs & Company, 85 Broad Street, New York, NY 10004.
Ralphael de la Gueronniere, Chairman, Discount Corporation of New York, 58 Pine Street, New York, NY 10005.
Kenneth de Regt, Managing Director, Morgan Stanley & Company, 25 Cabot Square, Canary Wharf, London E14 4QA, England.
Richard Kelly, Chairman of the Board, Aubrey G. Lanston & Co., Inc., 1 Chase Manhattan Pl. 53rd Fl., New York, NY 10005.
Mark F. Kessenich, Jr., President, Eastbridge Capital, Inc., 135 East 56th Street, New York, NY 10022.
Bruce R. Lakefield, Managing Director, Lehman Brothers, 200 Vesey Street, 9th Fl., New York, NY 10285.
Robert D. McKnew, Executive Vice President, Bank of America, 555 California Street, 10th Fl., San Francisco, CA 94104.
Gregory C. Menne, Vice President, A.G. Edwards & Sons, Inc., One North Jefferson, St. Louis, MO 63103.
Daniel T. Napoli, Senior Vice President & Director, Merrill Lynch Capital Markets & Risk Management, World Financial Center, N. Tower, New York, NY 10281.
Richard B. Roberts, Exec. Vice President, Wachovia Bank & Trust Co., NA, P.O. Box 3099, Winston-Salem, NC 27105.
Marcy Recktenwald, Managing Director, BT Securities, Inc., 130 Liberty Street, New York, NY 10006.
Joseph Rosenberg, President, Lawton General Corporation, 667 Madison Avenue, New York, NY 10021–8087.
Stephen Thieke, Managing Director, Morgan Guaranty Trust Co., 60 Wall Street, 4th Fl., New York, NY 10260.
Craig M. Wardlaw, Exec. Vice President, NationsBank Corporation, NationsBank Corporate Center, Charleston, NC 28255–0001.
Patricia Zlotin, Exec. Vice President, Massachusetts Financial Services Co., 500 Boylston Street, Boston, MA 021167.

Dated: June 25, 1993.

Deborah M. Witchey,

Acting Assistant Secretary (Management).

[FR Doc. 93–15397 Filed 6–29–93; 8:45 am]

BILLING CODE 4810-25-M

OFFICE OF THE UNITED STATES TRADE REPRESENTATIVE

Advisory Committee for Trade Policy and Negotiations

AGENCY: Office of the United States Trade Representative.

ACTION: Notice of Advisory Committee for Trade Policy and Negotiations meeting date and closure of meeting.

SUMMARY: The meeting will include a review and discussion of current issues which influence U.S. trade policy. Pursuant to section 2155(f)(2) of title 19 of the United States Code, I have determined that this meeting will be concerned with matters the disclosure of which would seriously compromise the Government's negotiating objectives or bargaining positions.

DATES: The meeting of the Advisory Committee for Trade Policy and Negotiations is scheduled for June 30, 1993.

ADDRESSES: The meetings will be held at the Sheraton Carlton Hotel, 16th and K Streets, NW., Washington, DC from 11:30 a.m. to 4 p.m. unless otherwise notified.

FOR FURTHER INFORMATION CONTACT: Thomas Hynes, Director, Public Liaison, Office of the United States Trade Representative, Executive Office of the President.

Ira S. Shapiro,

Acting United States Trade Representative.

[FR Doc. 93–15436 Filed 6–29–93; 8:45 am]

BILLING CODE 3190-01-M

Sunshine Act Meetings

Federal Register
Vol. 58, No. 124
Wednesday, June 30, 1993

This section of the FEDERAL REGISTER contains notices of meetings published under the "Government in the Sunshine Act" (Pub. L. 94-409) 5 U.S.C. 552b(e)(3).

EQUAL EMPLOYMENT OPPORTUNITY COMMISSION

DATE AND TIME: 2:00 p.m. (Eastern Time) Tuesday, July 13, 1993.

PLACE: Conference Room on the Ninth Floor of the EEOC Office Building, 1801 "L" Street, NW., Washington, DC 20507.

STATUS: Part of the Meeting will be open to the public and part of the Meeting will be closed.

MATTERS TO BE CONSIDERED:

Open Session

1. Announcement of Notation Votes
2. Report to the Commission:
   Systemic Investigations & Review Program, Office of Program Operations
3. Request for Comments on the Use of Alternative Dispute Resolution and Negotiated Rulemaking Procedures
4. Notice of Proposed Rulemaking Regarding Guidelines on Harassment based on Race, Color, Religion, Gender, National Origin, Age, and Disability

Closed Session

1. Litigation Authorization: General Counsel Recommendations
2. Agency Adjudication and Determination on the Record of Federal Agency Discrimination Complaint Appeals
3. Report on Systemic Cases

Note: Any matter not discussed or concluded may be carried over to a later meeting. (In addition to publishing notices on EEOC Commission meetings in the **Federal Register**, the Commission also provides a recorded announcement a full week in advance on future Commission sessions. Please telephone (202) 663–7100 (voice) and (202) 663–4077 (TTD) at any time for information on these meetings.

CONTACT PERSON FOR MORE INFORMATION: Frances M. Hart, Executive Officer on (202) 663–4070.

Dated: June 28, 1993.

Frances M. Hart,

Executive Officer, Executive Secretariat.

[FR Doc. 93–15648 Filed 6–28–93; 3:59 pm]

BILLING CODE 6750–06

FEDERAL HOUSING FINANCE BOARD

"FEDERAL REGISTER" CITATION OF PREVIOUS ANNOUNCEMENT: 58 FR 33855, June 21, 1993.

PREVIOUSLY ANNOUNCED TIME AND DATE OF THE MEETING: 9:00 a.m., Wednesday, June 23, 1993.

CHANGES IN THE MEETING: The following topic was moved from the closed portion of the meeting to the open portion of the meeting.

- System 2000.

Through the System 2000 topic was eligible for consideration in the closed session of the meeting pursuant to the exemptions in section 552b(c) and (9)(B) of title 5 of the United States Code, the Board determined that the public interest would be best served if the topic was discussed in the open portion of the meeting. No earlier notice of this change was practicable.

CONTACT PERSON FOR MORE INFORMATION: Elaine L. Baker, Executive Secretary to the Board, (202) 408–2837.

Philip L. Conover,

Managing Director.

[FR Doc. 93–15571 Filed 6–28–93; 1:12 pm]

BILLING CODE 6725–01–M

SECURITIES AND EXCHANGE COMMISSION

Agency Meetings

"FEDERAL REGISTER" CITATION OF PREVIOUS ANNOUNCEMENT: [58 FR 34498 June 25, 1993].

STATUS: Closed meetings.

PLACE: 450 Fifth Street, NW., Washington, DC.

DATE PREVIOUSLY ANNOUNCED: Tuesday, June 22, 1993.

CHANGE IN THE MEETING: Deletion/Addition.

A closed meeting scheduled for Monday, June 28, 1993, at 11:00 a.m. has been cancelled.

A closed meeting will be held on Wednesday, June 30, 1993, at 2:30 p.m., to consider the following items:

Institution of administrative proceedings of an enforcement nature.
Institution of injunctive actions.
Settlement of administrative proceedings of an enforcement nature.
Opinions.
Administrative proceeding order.

Commissioner Roberts, as duty officer, determined that Commission business required the above changes and that no earlier notice thereof was possible.

At times, changes in Commission priorities require alterations in the scheduling of meeting items. For further information and to ascertain what, if any, matters have been added, deleted or postponed, please contact: Christine Sakach at (202) 272–2300.

Dated: June 25, 1993.

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 93–15570 Filed 6–28–93; 1:11 pm]

BILLING CODE 8010–01–M

federal register

Wednesday
June 30, 1993

Part II

Department of Labor

Occupational Safety and Health Administration

29 CFR Parts 1910 and 1926

Incorporation of General Industry Safety and Health Standards Applicable to Construction Work and Technical Amendments; Final Rules

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Part 1926

Incorporation of General Industry Safety and Health Standards Applicable to Construction Work

AGENCY: Occupational Safety and Health Administration, Department of Labor.

ACTION: Final Rule; Incorporation and designation of existing standards applicable to construction work to codify them as construction standards.

SUMMARY: OSHA is incorporating the regulatory text of the General Industry Safety and Health Standards (part 1910) that have been identified as applicable to construction work into the Safety and Health Regulations for Construction (29 CFR part 1926). For some time, elements of both labor and management within the construction industry have requested the Agency to develop a single set of OSHA regulations for the exclusive use of that industry. OSHA prepared this document in response to the concerns of the affected parties and because the Agency recognizes the need for uniform enforcement information. This action will assist employers and employees in obtaining more up-to-date information on their construction safety and health obligations.

EFFECTIVE DATE: June 30, 1993.

FOR FURTHER INFORMATION CONTACT: Mr. James F. Foster, U.S. Department of Labor, Occupational Safety and Health Administration, Room N–3647, 200 Constitution Avenue, N.W., Washington, DC 20210; telephone: (202)219–8151.

SUPPLEMENTARY INFORMATION:

Background

OSHA has recognized, since early in its existence, that there are circumstances where the safety and health standards for construction employment (29 CFR part 1926) are less comprehensive than the safety and health standards for general industry employment (29 CFR part 1910). In a number of cases, the Agency has determined that it is appropriate to cite a construction employer for violation of a part 1910 standard, to effectuate the purposes of the OSH Act. (See 29 CFR 1910.5(c), incorporated into the Construction Standards as 29 CFR 1926.20(d).)

By 1978, a number of part 1910 standards had been identified as applicable to construction. As a result, both employers and employees requested that OSHA issue a single volume which would present all of the regulations, whether from part 1910 or from part 1926, that the Agency considered applicable to construction employment. The parties requesting consolidation stated that notifying employers of the applicable part 1910 standards would facilitate compliance.

On February 9, 1979, OSHA issued a Notice of Enforcement Policy and Republication of Standards (44 FR 8577) which reprinted the entire text of 29 CFR part 1926, together with certain General Industry Safety and Health Standards contained in 29 CFR part 1910 which had been identified as applicable to construction employment. On April 6, 1979, the Agency issued a correction notice (54 FR 20940). Subsequently, to promote uniform enforcement, OSHA addressed the application of part 1910 standards to construction employment in field directives CPL 2- 1.68 (2-28-79) and CPL 2-45A CH-1 (8-18-83).

In addition, in 1983 the Agency produced and distributed OSHA Publication 2207, Construction Industry Standards, which presented the part 1910 and part 1926 standards covered by the February 9, 1979, and April 6, 1979, notices. This OSHA publication was reprinted in 1986, and revised in 1987. The volume was available through the Government Printing Office and from the Agency itself in limited quantities.

More recently, a number of parties, including the Advisory Committee on Construction Safety and Health (See Transcript of 6-20-90 meeting, pp. 165-169), have suggested that OSHA consolidate all regulations applicable to construction in a single volume, either by revising 29 CFR part 1926 or by updating and reprinting OSHA Publication 2207. In response to these suggestions, the Agency revised and reissued Publication 2207 in 1991. The initial printing run of the 1991 volume has now sold out.

In this notice, in order to provide construction employers and employees with a more comprehensive compilation of applicable safety and health standards, OSHA is revising its part 1926 regulations by adding identified part 1910 standards to part 1926, complete with their own part 1926 designations.

Most of the General Industry standards incorporated through this action have long been applied to construction employment. A few recent standards, such as the standards for Process Safety Management (PSM), 29 CFR 1910.119, and Hazardous Waste Operations, 29 CFR 1910.120, are being added to part 1926 at this time because OSHA has determined that their inclusion is necessary for the protection of construction workers.

For example, the Agency is aware that employees who perform construction work at petrochemical facilities may be exposed to process hazards. The inclusion of the PSM standard, incorporated here as 29 CFR 1926.64, provides clear notice that employers must comply with that standard to protect employees performing construction work from exposure to the process hazards covered by the standard.

Also, OSHA is adding an Appendix A to 29 CFR 1926.55, "Gases, vapors, fumes, dusts and mists," to set out the 1970 American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit values (TLVs) for airborne contaminants. A reference to the new Appendix A is being added to 29 CFR 1926.55(a). Existing 29 CFR 1926.55(a) requires employers to protect each employee performing construction work from exposures that exceed the 1970 ACGIH TLVs. The existing standard simply references the ACGIH document, so employers have had to look outside 29 CFR part 1926 to determine what TLVs apply to their operations. Recognizing that, with the passage of time, it has become increasingly difficult to obtain the 1970 ACGIH document, OSHA has included the 1970 TLVs in the 1983, 1986, and 1987 editions of OSHA Publication 2207. The Agency believes that spelling out the TLVs in Appendix A will facilitate compliance with 29 CFR 1926.55(a). The substantive provisions of the standard are unchanged.

In addition, the list of TLVs in 29 CFR 1926.55, Appendix A, will be annotated as necessary to indicate that, where a particular substance is regulated both by a TLV listed in Appendix A and by a standard incorporated into new 29 CFR part 1926, subpart Z, the subpart Z standard prevails.

OSHA is also adding an Appendix A at the end of 29 CFR part 1926 to set out the section numbers for the part 1910 standards incorporated into part 1926, along with the part 1926 designations for the incorporated part 1910 standards. This list is essentially the same as that published in 1979, updated to reflect amendments and revisions to the part 1910 standards since that date. OSHA is adding the Appendix so construction industry employers and employees can readily identify the General Industry Standards that have been incorporated into the Construction Industry Standards.

While every effort has been made to identify those General Industry standards which are most likely to be applicable to construction work, OSHA notes that other part 1910 standards may, under some circumstances, also be applicable. A special procedure has been established by the National Office to address any such situations.

Insofar as enforcement experience and other information indicate that part 1910 standards not included in the list are applicable to construction, part 1926 will be modified accordingly, through the issuance of technical amendments.

Exemption From Notice and Comment Procedures

With regard to this action, OSHA has determined that it is not required to follow procedures for public notice and comment rulemaking under either section 4 of the Administrative Procedure Act (5 U.S.C. 553) or under section 6(b) of the Occupational Safety and Health Act (29 U.S.C. 655(b)). This action does not affect the substantive requirements or coverage of the standards themselves. This incorporation does not modify or revoke existing rights or obligations, nor does it establish new ones. This action simply provides additional information on the existing regulatory burden. OSHA, therefore, finds that notice and public procedure are impracticable and unnecessary within the meaning of 5 U.S.C. 553(b)(3)(B). For the same reasons, OSHA also finds that, in accordance with 29 CFR 1911.5, good cause exists for dispensing with the public notice and comment procedures prescribed in section 6(b) of the Occupational Safety and Health Act.

Exemption From Delayed Effective Date Requirement

Under 5 U.S.C. 553, OSHA finds that there is good cause for making this Appendix effective upon publication in the **Federal Register**. This incorporation simply provides additional information on the existing regulatory burden without increasing that burden.

List of Subjects in 29 CFR Part 1926

Construction industry, Electric power, Fire prevention, Hazardous substances, Motor vehicle safety, Noise control, Occupational safety and health, Radiation protection, Reporting and recordkeeping requirements, Signs and symbols.

Authority

Accordingly, pursuant to sections 4, 6 and 8 of the Occupational Safety and Health Act of 1970, (29 U.S.C. 653, 655 and 657); section 107 of the Contract Work Hours and Safety Standards Act (Construction Safety Act) (40 U.S.C. 333); section 4 of the Administrative Procedure Act (5 U.S.C. 553); Secretary of Labor's Order 1-90 (55 FR 9033); and 29 CFR part 1911. 29 CFR part 1926 is amended as set forth below.

Signed at Washington, DC, this 16th day of June, 1993.

David C. Zeigler,

Acting Assistant Secretary of Labor

PART 1926—SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION

The following list reflects **ONLY** *new table of contents entries for sections that are being added to part 1926 by this document. The new section headings read as follows:*

Subpart C—General Safety and Health Provisions

Sec.

* * * *

1926.33 Access to employee exposure and medical records.
1926.34 Means of egress.
1926.35 Employee emergency action plans.

Subpart D—Occupational Health and Environmental Control

* * * *

1926.64 Process safety management of highly hazardous chemicals.
1926.65 Hazardous waste operations and emergency response.
1926.66 Criteria for design and construction for spray booths.

Subpart E—Personal Protective Equipment and Life Saving Equipment

1926.95 Criteria for personal protective equipment.
1926.96 Occupational foot protection.
1926.97 Protective clothing for fire brigades.
1926.98 Respiratory protection for fire brigades.

Subpart F—Fire Protection and Prevention

* * * *

Fixed Fire Suppression Equipment

1926.156 Fixed extinguishing systems, general.
1926.157 Fixed extinguishing systems, gaseous agent.

Other Fire Protection Systems

1926.158 Fire detection systems.
1926.159 Employee alarm systems.

Subpart I—Tools—Hand and Power

* * * *

1926.306 Air receivers.
1926.307 Mechanical power-transmission apparatus.

Subpart L—Scaffolding

* * * *

1926.453 Manually propelled mobile ladder stands and scaffolds (towers).

Subpart Y—Commercial Diving Operations

General

1926.1071 Scope and application.
1926.1072 Definitions.

Personnel Requirements

1926.1076 Qualifications of dive team.

General Operations Procedures

1926.1080 Safe practices manual.
1926.1081 Pre-dive procedures.
1926.1082 Procedures during dive.
1926.1083 Post-dive procedures.

Specific Operations Procedures

1926.1084 SCUBA diving.
1926.1085 Surface-supplied air diving.
1926.1086 Mixed-gas diving.
1926.1087 Liveboating.

Equipment Procedures and Requirements

1926.1090 Equipment.

Recordkeeping

1926.1091 Recordkeeping requirements.
1926.1092 Effective date.

Appendix A to Subpart Y—Examples of Conditions Which May Restrict or Limit Exposure to Hyperbaric Conditions

Appendix B to Subpart Y—Guidelines for Scientific Diving

Subpart Z—Toxic and Hazardous Substances

1926.1100—1926.1101 [Reserved]
1926.1102 Coal tar pitch volatiles; interpretation of term.
1926.1103 4-Nitrobiphenyl.
1926.1104 alpha-Naphthylamine.
1926.1105 [Reserved]
1926.1106 Methyl chloromethyl ether.
1926.1107 3,3'-Dichlorobenzidine (and its salts).
1926.1108 bis-Chloromethyl ether.
1926.1109 beta-Naphthylamine.
1926.1110 Benzidine.
1926.1111 4-Aminodiphenyl.
1926.1112 Ethyleneimine.
1926.1113 beta-Propiolactone.
1926.1114 2-Acetylaminofluorene.
1926.1115 4-Dimethylaminoazobenzene.
1926.1116 N-Nitrosodimethylamine.
1926.1117 Vinyl chloride.
1926.1118 Inorganic arsenic.
1926.1128 Benzene.
1926.1129 Coke oven emissions.
1926.1144 1,2-dibromo-3-chloropropane.
1926.1145 Acrylonitrile.
1926.1147 Ethylene oxide.
1926.1148 Formaldehyde.

Appendix A to Part 1926—Designations for General Industry Standards Incorporated Into Body of Construction Standards

Subpart C—General Safety and Health Provisions

Authority: Section 8 of the Occupational Safety and Health Act, 29 U.S.C. 657; Secretary of Labor's Order No. 9–83 (48 FR 35736) and 29 CFR part 1911.

1. In § 1926.20, new paragraphs (c) through (e) are added to read as follows:

§ 1926.20 General safety and health provisions and applicability of standards.

* * * * *

(c) The standards contained in this part shall apply with respect to employments performed in a workplace in a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, Guam, Trust Territory of the Pacific Islands, Wake Island, Outer Continental Shelf lands defined in the Outer Continental Shelf Lands Act, Johnston Island, and the Canal Zone.

(d) (1) If a particular standard is specifically applicable to a condition, practice, means, method, operation, or process, it shall prevail over any different general standard which might otherwise be applicable to the same condition, practice, means, method, operation, or process.

(2) On the other hand, any standard shall apply according to its terms to any employment and place of employment in any industry, even though particular standards are also prescribed for the industry to the extent that none of such particular standards applies.

(e) In the event a standard protects on its face a class of persons larger than employees, the standard shall be applicable under this part only to employees and their employment and places of employment.

2. In § 1926.32, paragraphs (g) through (r) are redesignated as paragraphs (h) through (s), and new paragraph (g) is added. The text of new paragraph (g) reads as follows:

§ 1926.32 Definitions.

* * * * *

(g) *Construction work.* For purposes of this section, *Construction work* means work for construction, alteration, and/or repair, including painting and decorating.

* * * * *

3. New § 1926.33 is added to read as follows:

§ 1926.33 Access to employee exposure and medical records.

(a) *Purpose.* The purpose of this section is to provide employees and their designated representatives a right of access to relevant exposure and medical records; and to provide representatives of the Assistant Secretary a right of access to these records in order to fulfill responsibilities under the Occupational Safety and Health Act. Access by employees, their representatives, and the Assistant Secretary is necessary to yield both direct and indirect improvements in the detection, treatment, and prevention of occupational disease. Each employer is responsible for assuring compliance with this section, but the activities involved in complying with the access to medical records provisions can be carried out, on behalf of the employer, by the physician or other health care personnel in charge of employee medical records. Except as expressly provided, nothing in this section is intended to affect existing legal and ethical obligations concerning the maintenance and confidentiality of employee medical information, the duty to disclose information to a patient/employee or any other aspect of the medical-care relationship, or affect existing legal obligations concerning the protection of trade secret information.

(b) *Scope and application.* (1) This section applies to each general industry, maritime, and construction employer who makes, maintains, contracts for, or has access to employee exposure or medical records, or analyses thereof, pertaining to employees exposed to toxic substances or harmful physical agents.

(2) This section applies to all employee exposure and medical records, and analyses thereof, of such employees, whether or not the records are mandated by specific occupational safety and health standards.

(3) This section applies to all employee exposure and medical records, and analyses thereof, made or maintained in any manner, including on an in-house of contractual (*e.g.*, fee-for-service) basis. Each employer shall assure that the preservation and access requirements of this section are complied with regardless of the manner in which the records are made or maintained.

(c) *Definitions*—(1) *Access* means the right and opportunity to examine and copy.

(2) *Analysis using exposure or medical records* means any compilation of data or any statistical study based at least in part on information collected from individual employee exposure or medical records or information collected from health insurance claims records, provided that either the analysis has been reported to the employer or no further work is currently being done by the person responsible for preparing the analysis.

(3) *Designated representative* means any individual or organization to whom an employee gives written authorization to exercise a right of access. For the purposes of access to employee exposure records and analyses using exposure or medical records, a recognized or certified collective bargaining agent shall be treated automatically as a designated representative without regard to written employee authorization.

(4) *Employee* means a current employee, a former employee, or an employee being assigned or transferred to work where there will be exposure to toxic substances or harmful physical agents. In the case of a deceased or legally incapacitated employee, the employee's legal representative may directly exercise all the employee's rights under this section.

(5) *Employee exposure record* means a record containing any of the following kinds of information:

(i) Environmental (workplace) monitoring or measuring of a toxic substance or harmful physical agent, including personal, area, grab, wipe, or other form of sampling, as well as related collection and analytical methodologies, calculations, and other background data relevant to interpretation of the results obtained;

(ii) Biological monitoring results which directly assess the absorption of a toxic substance or harmful physical agent by body systems (*e.g.*, the level of a chemical in the blood, urine, breath, hair, fingernails, etc) but not including results which assess the biological effect of a substance or agent or which assess an employee's use of alcohol or drugs;

(iii) Material safety data sheets indicating that the material may pose a hazard to human health; or

(iv) In the absence of the above, a chemcial inventory or any other record which reveals where and when used and the identity (*e.g.*, chemical, common, or trade name) of a toxic substance or harmful physical agent.

(6)(i) *Employee medical record* means a record concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel or technician, including:

(A) Medical and employment questionnaires or histories (including job description and occupational exposures),

(B) The results of medical examinations (pre-employment, pre-assignment, periodic, or episodic) and laboratory tests (including chest and other X–ray examinations taken for the purposes of establishing a base-line or detecting occupational illness, and all biological monitoring not defined as an "employee exposure record"),

(C) Medical opinions, diagnoses, progress notes, and recommendations,

(D) First aid records,

(E) Descriptions of treatments and prescriptions, and

(F) Employee medical complaints.

(ii) "Employee medical record" does not include medical information in the form of:

(A) Physical specimens (*e.g.*, blood or urine samples) which are routinely discarded as a part of normal medical practice; or

(B) Records concerning health insurance claims if maintained separately from the employer's medical program and its records, and not accessible to the employer by employee name or other direct personal identifier (*e.g.*, social security number, payroll number, etc.); or

(C) Records created solely in preparation for litigation which are privileged from discovery under the applicable rules of procedure or evidence; or

(D) Records concerning voluntary employee assistance programs (alcohol, drug abuse, or personal counseling programs) if maintained separately from the employer's medical program and its records.

(7) *Employer* means a current employer, a former employer, or a successor employer.

(8) *Exposure* or *exposed* means that an employee is subjected to a toxic substance or harmful physical agent in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.), and includes past exposure and potential (*e.g.*, accidental or possible) exposure, but does not include situations where the employer can demonstrate that the toxic substance or harmful physical agent is not used, handled, stored, generated, or present in the workplace in any manner different from typical non-occupational situations.

(9) *Health professional* means a physician, occupational health nurse, industrial hygienist, toxicologist, or epidemiologist, providing medical or other occupational health services to exposed employees.

(10) *Record* means any item, collection, or grouping of information regardless of the form or process by which it is maintained (*e.g.*, paper document, microfiche, microfilm, X-ray film, or automated data processing).

(11) *Specific chemical identity* means the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.

(12)(i) *Specific written consent* means a written authorization containing the following:

(A) The name and signature of the employee authorizing the release of medical information,

(B) The date of the written authorization,

(C) The name of the individual or organization that is authorized to release the medical information,

(D) The name of the designated representative (individual or organization) that is authorized to receive the released information,

(E) A general description of the medical information that is authorized to be released,

(F) A general description of the purpose for the release of the medical information, and

(G) A date or condition upon which the written authorization will expire (if less than one year).

(ii) A written authorization does not operate to authorize the release of medical information not in existence on the date of written authorization, unless the release of future information is expressly authorized, and does not operate for more than one year from the date of written authorization.

(iii) A written authorization may be revoked in writing prospectively at any time.

(13) *Toxic substance or harmful physical agent* means any chemical substance, biological agent (bacteria, virus, fungus, etc.), or physical stress (noise, heat, cold, vibration, repetitive motion, ionizing and non-ionizing radiation, hypo—or hyperbaric pressure, etc.) which:

(i) Is listed in the least printed edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS); or

(ii) Has yielded positive evidence of an acute or chronic health hazard in testing conducted by, or known to, the employer; or

(iii) Is the subject of a material safety data sheet kept by or known to the employer indicating that the material may pose a hazard to human health.

(14) *Trade secret* means any confidential formula, pattern, process, device, or information or compilation of information that is used in an employer's business and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it.

(d) *Preservation of records.* (1) Unless a specific occupational safety and health standard provides a different period of time, each employer shall assure the preservation and retention of records as follows:

(i) *Employee medical records.* The medical record for each employee shall be preserved and maintained for at least the duration of employment plus thirty (30) years, except that the following types of records need not be retained for any specified period:

(A) Health insurance claims records maintained separately from the employer's medical program and its records,

(B) First aid records (not including medical histories) of one-time treatment and subsequent observation of minor scratches, cuts, burns, splinters, and the like which do not involve medical treatment, loss of consciousness, restriction of work or motion, or transfer to another job, if made on-site by a non-physician and if maintained separately from the employer's medical program and its records, and

(C) The medical records of employees who have worked for less than (1) year for the employer need not be retained beyond the term of employment if they are provided to the employee upon the termination of employment.

(ii) *Employee exposure records.* Each employee exposure record shall be preserved and maintained for at least thirty (30) years, except that:

(A) Background data to environmental (workplace) monitoring or measuring, such as laboratory reports and worksheets, need only be retained for one (1) year as long as the sampling results, the collection methodology (sampling plan), a description of the analytical and mathematical methods used, and a summary of other background data relevant to interpretation of the results obtained, are retained for at least thirty (30) years; and

(B) Material safety data sheets and paragraph (c)(5)(iv) records concerning the identity of a substance or agent need not be retained for any specified period as long as some record of the identity (chemical name if known) of the substance or agent, where it was used, and when it was used is retained for at least thirty (30) years;[1] and

(C) Biological monitoring results designated as exposure records by specific occupational safety and health standards shall be preserved and maintained as required by the specific standard.

(iii) *Analyses using exposure or medical records.* Each analysis using exposure or medial records shall be preserved and maintained for at least thirty (30) years.

(2) Nothing in this section is intended to mandate the form, manner, or process by which an employer preserves a record as long as the information

[1] Material safety data sheets must be kept for those chemicals currently in use that are effected by the Hazard Communication Standard in accordance with 29 CFR 1926.59(g).

contained in the record is preserved and retrievable, except that chest X-ray films shall be preserved in their original state.

(e) *Access to records*—(1) *General.* (i) Whenever an employee or designated representative requests access to a record, the employer shall assure that access is provided in a reasonable time, place, and manner. If the employer cannot reasonably provide access to the record within fifteen (15) working days, the employer shall within the fifteen (15) working days apprise the employee or designated representative requesting the record of the reason for the delay and the earliest date when the record can be made available.

(ii) The employer may require of the requester only such information as should be readily known to the requester and which may be necessary to locate or identify the records being requested (*e.g.*, dates and locations where the employee worked during the time period in question).

(iii) Whenever an employee or designated representative requests a copy of a record, the employer shall assure that either:

(A) A copy of the record is provided without cost to the employee or representative,

(B) The necessary mechanical copying facilities (*e.g.*, photocopying) are made available without cost to the employee or representative for copying the record, or

(C) The record is loaned to the employee or representative for a reasonable time to enable a copy to be made.

(iv) In the case of an original X-ray, the employer may restrict access to on-site examination or make other suitable arrangements for the temporary loan of the X-ray.

(v) Whenever a record has been previously provided without cost to an employee or designated representative, the employer may charge reasonable, non-discriminatory administrative costs (*i.e.*, search and copying expenses but not including overhead expenses) for a request by the employee or designated representative for additional copies of the record, except that

(A) An employer shall not charge for an initial request for a copy of new information that has been added to a record which was previously provided; and

(B) An employer shall not charge for an initial request by a recognized or certified collective bargaining agent for a copy of an employee exposure record or an analysis using exposure or medical records.

(vi) Nothing in this section is intended to preclude employees and collective bargaining agents from collectively bargaining to obtain access to information in addition to that available under this section.

(2) *Employee and designated representative access*—(i) *Employee exposure records.* (A) Except as limited by paragraph (f) of this section, each employer shall, upon request, assure the access to each employee and designated representative to employee exposure records relevant to the employee. For the purpose of this section, an exposure record relevant to the employee consists of:

(*1*) A record which measures or monitors the amount of a toxic substance or harmful physical agent to which the employee is or has been exposed;

(*2*) In the absence of such directly relevant records, such records of other employees with past or present job duties or working conditions related to or similar to those of the employee to the extent necessary to reasonably indicate the amount and nature of the toxic substances or harmful physical agents to which the employee is or has been subjected, and

(*3*) Exposure records to the extent necessary to reasonably indicate the amount and nature of the toxic substances or harmful physical agents at workplaces or under working conditions to which the employee is being assigned or transferred.

(B) Requests by designated representatives for unconsented access to employee exposure records shall be in writing and shall specify with reasonable particularity:

(*1*) The records requested to be disclosed; and

(*2*) The occupational health need for gaining access to these records.

(ii) *Employee medical records.* (A) Each employer shall, upon request, assure the access of each employee to employee medical records of which the employee is the subject, except as provided in paragraph (e)(2)(ii)(D) of this section.

(B) Each employer shall, upon request, assure the access of each designated representative to the employee medical records of any employee who has given the designated representative specific written consent. Appendix A to this section contains a sample form which may be used to establish specific written consent for access to employee medical records.

(C) Whenever access to employee medical records is requested, a physician representing the employer may recommend that the employee or designated representative:

(*1*) Consult with the physician for the purposes of reviewing and discussing the records requested,

(*2*) Accept a summary of material facts and opinions in lieu of the records requested, or

(*3*) Accept release of the requested records only to a physician or other designated representative.

(D) Whenever an employee requests access to his or her employee medical records, and a physician representing the employer believes that direct employee access to information contained in the records regarding a specific diagnosis of a terminal illness or a psychiatric condition could be detrimental to the employee's health, the employer may inform the employee that access will only be provided to a designated representative of the employee having specific written consent, and deny the employee's request for direct access to this information only. Where a designated representative with specific written consent requests access to information so withheld, the employer shall assure the access of the designated representative to this information, even when it is known that the designated representative will give the information to the employee.

(E) A physician, nurse, or other responsible health care personnel maintaining medical records may delete from requested medical records the identity of a family member, personal friend, or fellow employee who has provided confidential information concerning an employee's health status.

(iii) *Analyses using exposure or medical records.* (A) Each employee shall, upon request, assure the access of each employee and designated representative to each analysis using exposure or medical records concerning the employee's working conditions or workplace.

(B) Whenever access is requested to an analysis which reports the contents of employee medical records by either direct identifier (name, address, social security number, payroll number, etc.) or by information which could reasonably be used under the circumstances indirectly to identify specific employees (exact age, height, weight, race, sex, date of initial employment, job title, etc.), the employer shall assure that personal identifiers are removed before access is provided. If the employer can demonstrate that removal of personal identifiers from an analysis is not feasible, access to the personally identifiable portions of the analysis need not be provided.

(3) *OSHA access.* (i) Each employer shall, upon request, and without derogation of any rights under the Constitution or the Occupational Safety and Health Act of 1970, 29 U.S.C. 651 *et seq.*, that the employer chooses to exercise, assure the prompt access of representatives of the Assistant Secretary of Labor for Occupational Safety and Health to employee exposure and medical records and to analyses using exposure or medical records. Rules of agency practice and procedure governing OSHA access to employee medical records are contained in 29 CFR 1913.10.

(ii) Whenever OSHA seeks access to personally identifiable employee medical information by presenting to the employer a written access order pursuant to 29 CFR 1913.10(d), the employer shall prominently post a copy of the written access order and its accompanying cover letter for at least fifteen (15) working days.

(f) *Trade secrets.* (1) Except as provided in paragraph (f)(2) of this section, nothing in this section precludes an employer from deleting from records requested by a health professional, employee, or designated representative any trade secret data which discloses manufacturing processes, or discloses the percentage of a chemical substance in mixture, as long as the health professional, employee, or designated representative is notified that information has been deleted. Whenever deletion of trade secret information substantially impairs evaluation of the place where or the time when exposure to a toxic substance or harmful physical agent occurred, the employer shall provide alternative information which is sufficient to permit the requesting party to identify where and when exposure occurred.

(2) The employer may withhold the specific chemical identity, including the chemical name and other specific identification of a toxic substance from a disclosable record provided that:

(i) The claim that the information withheld is a trade secret can be supported;

(ii) All other available information on the properties and effects of the toxic substance is disclosed;

(iii) The employer informs the requesting party that the specific chemical identity is being withheld as a trade secret; and

(iv) The specific chemical identity is made available to health professionals, employees and designated representatives in accordance with the specific applicable provisions of this paragraph.

(3) Where a treating physician or nurse determines that a medical emergency exists and the specific chemical identity of a toxic substance is necessary for emergency or first-aid treatment, the employer shall immediately disclose the specific chemical identity of a trade secret chemical to the treating physician or nurse, regardless of the existence of a written statement of need or a confidentiality agreement. The employer may require a written statement of need and confidentiality agreement, in accordance with the provisions of paragraphs (f)(4) and (f)(5), as soon as circumstances permit.

(4) In non-emergency situations, an employer shall, upon request, disclose a specific chemical identity, otherwise permitted to be withheld under paragraph (f)(2) of this section, to a health professional, employee, or designated representative if:

(i) The request is in writing;

(ii) The request describes with reasonable detail one or more of the following occupational health needs for the information:

(A) To assess the hazards of the chemicals to which employees will be exposed;

(B) To conduct or assess sampling of the workplace atmosphere to determine employee exposure levels;

(C) To conduct pre-assignment or periodic medical surveillance of exposed employees;

(D) To provide medical treatment to exposed employees;

(E) To select or assess appropriate personal protective equipment for exposed employees;

(F) To design or assess engineering controls or other protective measures for exposed employees; and

(G) To conduct studies to determine the health effects of exposure.

(iii) The request explains in detail why the disclosure of the specific chemical identity is essential and that, in lieu thereof, the disclosure of the following information would not enable the health professional, employee or designated representative to provide the occupational health services described in paragraph (f)(4)(ii) of this section:

(A) The properties and effects of the chemical;

(B) Measures for controlling workers' exposure to the chemical;

(C) Methods of monitoring and analyzing worker exposure to the chemical; and,

(D) Methods of diagnosing and treating harmful exposures to the chemical;

(iv) The request includes a description of the procedures to be used to maintain the confidentiality of the disclosed information; and,

(v) The health professional, employee, or designated representative and the employer or contractor of the services of the health professional or designated representative agree in a written confidentiality agreement that the health professional, employee or designated representative will not use the trade secret information for any purpose other than the health need(s) asserted and agree not to release the information under any circumstances other than to OSHA, as provided in paragraph (f)(9) of this section, except as authorized by the terms of the agreement or by the employer.

(5) The confidentiality agreement authorized by paragraph (f)(4)(iv) of this section:

(i) May restrict the use of the information to the health purposes indicated in the written statement of need;

(ii) May provide for appropriate legal remedies in the event of a breach of the agreement, including stipulation of a reasonable pre-estimate of likely damages; and,

(iii) May not include requirements for the posting of a penalty bond.

(6) Nothing in this section is meant to preclude the parties from pursuing non-contractual remedies to the extent permitted by law.

(7) If the health professional, employee or designated representative receiving the trade secret information decides that there is a need to disclose it to OSHA, the employer who provided the information shall be informed by the health professional prior to, or at the same time as, such disclosure.

(8) If the employer denies a written request for disclosure of a specific chemical identity, the denial must:

(i) Be provided to the health professional, employee or designated representative within thirty days of the request;

(ii) Be in writing;

(iii) Include evidence to support the claim that the specific chemical identity is a trade secret;

(iv) State the specific reasons why the request is being denied; and,

(v) Explain in detail how alternative information may satisfy the specific medical or occupational health need without revealing the specific chemical identity.

(9) The health professional, employee, or designated representative whose request for information is denied under paragraph (f)(4) of this section may refer the request and the written denial of the request to OSHA for consideration.

(10) When a heath professional employee, or designated representative refers a denial to OSHA under paragraph (f)(9) of this section, OSHA shall consider the evidence to determine if:

(i) The employer has supported the claim that the specific chemical identity is a trade secret;

(ii) The health professional employee, or designated representative has supported the claim that there is a medical or occupational health need for the information; and

(iii) The health professional, employee or designated representative has demonstrated adequate means to protect the confidentiality.

(11)(i) If OSHA determines that the specific chemical identity requested under paragraph (f)(4) of this section is not a *bona fide* trade secret, or that it is a trade secret but the requesting health professional, employee or designated representatives has a legitimate medical or occupational health need for the information, has executed a written confidentiality agreement, and has shown adequate means for complying with the terms of such agreement, the employer will be subject to citation by OSHA.

(ii) If an employer demonstrates to OSHA that the execution of a confidentiality agreement would not provide sufficient protection against the potential harm from the unauthorized disclosure of a trade secret specific chemical identity, the Assistant Secretary may issue such orders or impose such additional limitations or conditions upon the disclosure of the requested chemical information as may be appropriate to assure that the occupational health needs are met without an undue risk of harm to the employer.

(12) Notwithstanding the existence of a trade secret claim, an employer shall, upon request, disclose to the Assistant Secretary any information which this section requires the employer to make available. Where there is a trade secret claim, such claim shall be made no later than at the time the information is provided to the Assistant Secretary so that suitable determinations of trade secret status can be made and the necessary protections can be implemented.

(13) Nothing in this paragraph shall be construed as requiring the disclosure under any circumstances of process or percentage of mixture information which is trade secret.

(g) *Employee information.* (1) Upon an employee's first entering into employment, and at least annually thereafter, each employer shall inform current employees covered by this section of the following:

(i) The existence, location, and availability of any records covered by this section;

(ii) The person responsible for maintaining and providing access to records; and

(iii) Each employee's rights of access to these records.

(2) Each employer shall keep a copy of this section and its appendices, and make copies readily available, upon request, to employees. The employer shall also distribute to current employees any informational materials concerning this section which are made available to the employer by the Assistant Secretary of Labor for Occupational Safety and Health.

(h) *Transfer of records.* (1) Whenever an employer is ceasing to do business, the employer shall transfer all records subject to this section to the successor employer. The successor employer shall receive and maintain these records.

(2) Whenever an employer is ceasing to do business and there is no successor employer to receive and maintain the records subject to this standard, the employer shall notify affected current employees of their rights of access to records at least three (3) months prior to the cessation of the employer's business.

(3) Whenever an employer either is ceasing to do business and there is no successor employer to receive and maintain the records, or intends to dispose of any records required to be preserved for at least thirty (30) years, the employer shall:

(i) Transfer the records to the Director of the National Institute for Occupational Safety and Health (NIOSH) if so required by a specific occupational safety and health standard; or

(ii) Notify the Director of NIOSH in writing of the impending disposal of records at least three (3) months prior to the disposal of the records.

(4) Where an employer regularly disposes of records required to be preserved for at least thirty (30) years, the employer may, with at least (3) months notice, notify the Director of NIOSH on an annual basis of the records intended to be disposed of in the coming year.

(i) *Appendices.* The information contained in appendices A and B to this section is not intended, by itself, to create any additional obligations not otherwise imposed by this section nor detract from any existing obligation.

(Approved by the Office of Management and Budget under control number 1218–0065)

Appendix A to § 1926.33—Sample Authorization Letter for the Release of Employee Medical Record Information to a Designated Representative (Non-Mandatory)

I, _____ (full name of worker/patient), hereby authorize _____ (individual or organization holding the medical records) to release to _____ (individual or organization authorized to receive the medical information), the following medical information from my personal medical records:

_____

_____

(Describe generally the information desired to be released)

I give my permission for this medical information to be used for the following purpose:

_____

_____

but I do not give permission for any other use or re-disclosure of this information.

(Note: Several extra lines are provided below so that you can place additional restrictions on this authorization letter if you want to. You may, however, leave these lines blank. On the other hand, you may want to (1) specify a particular expiration date for this letter (if less than one year); (2) describe medical information to be created in the future that you intend to be covered by this authorization letter; or (3) describe portions of the medical information in your records which you do not intend to be released as a result of this letter.)

_____

_____

_____

_____

_____

Full name of Employee or Legal Representative

_____

Signature of Employee or Legal Representative

_____

_____

Date of Signature

Appendix B to § 1926.33—Availability of NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) (Non-Mandatory)

Section 1926.33 applies to all employee exposure and medical records, and analyses thereof, of employees exposed to toxic substances or harmful physical agents (paragraph (b)(2)). The term *toxic substance or harmful physical agent* is defined by paragraph (c)(13) to encompass chemical substances, biological agents, and physical stresses for which there is evidence of harmful health effects. The regulation uses the latest printed edition of the National Institute for Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances (RTECS) as one of the chief sources of information as to whether evidence of harmful health effects exists. If a substance is listed in the latest printed RTECS, the regulation applies to exposure and medical records (and analyses of these records) relevant to employees exposed to the substance.

It is appropriate to note that the final regulation does not require that employers

purchase a copy of RTECS, and many employers need not consult RTECS to ascertain whether their employee exposure or medical records are subject to the rule. Employers who do not currently have the latest printed edition of the NIOSH RTECS, however, may desire to obtain a copy. The RTECS is issued in an annual printed edition as mandated by section 20(a)(6) of the Occupational Safety and Health Act (29 U.S.C. 669(a)(6)).

The Introduction to the 1980 printed edition describes the RTECS as follows:

"The 1980 edition of the Registry of Toxic Effects of Chemical Substances, formerly known as the Toxic Substances list, is the ninth revision prepared in compliance with the requirements of Section 20(a)(6) of the Occupational Safety and Health Act of 1970 (Public Law 91–596). The original list was completed on June 28, 1971, and has been updated annually in book format. Beginning in October 1977, quarterly revisions have been provided in microfiche. This edition of the Registry contains 168,096 listings of chemical substances: 45,156 are names of different chemicals with their associated toxicity data and 122,940 are synonyms. This edition includes approximately 5,900 new chemical compounds that did not appear in the 1979 Registry. (p. xi)

"The Registry's purposes are many, and it serves a variety of users. It is a single source document for basic toxicity information and for other data, such as chemical identifiers ad information necessary for the preparation of safety directives and hazard evaluations for chemical substances. The various types of toxic effects linked to literature citations provide researchers and occupational health scientists with an introduction to the toxicological literature, making their own review of the toxic hazards of a given substance easier. By presenting data on the lowest reported doses that produce effects by several routes of entry in various species, the Registry furnishes valuable information to those responsible for preparing safety data sheets for chemical substances in the workplace. Chemical and production engineers can use the Registry to identify the hazards which may be associated with chemical intermediates in the development of final products, and thus can more readily select substitutes or alternative processes which may be less hazardous. Some organizations, including health agencies and chemical companies, have included the NIOSH Registry accession numbers with the listing of chemicals in their files to reference toxicity information associated with those chemicals. By including foreign language chemical names, a start has been made toward providing rapid identification of substances produced in other countries. (p. xi)

"In this edition of the Registry, the editors intend to identify "all known toxic substances" which may exist in the environment and to provide pertinent data on the toxic effects from known doses entering an organism by any route described. (p xi)

"It must be reemphasized that the entry of a substance in the Registry does not automatically mean that it must be avoided. A listing does mean, however, that the substance has the documented potential of being harmful if misused, and care must be exercised to prevent tragic consequences. Thus, the Registry lists many substances that are common in everyday life and are in nearly every household in the United States. One can name a variety of such dangerous substances: prescription and non-prescription drugs; food additives; pesticide concentrates, sprays, and dusts; fungicides; herbicides; paints; glazes, dyes; bleaches and other household cleaning agents; alkalies; and various solvents and diluents. The list is extensive because chemicals have become an integral part of our existence."

The RTECS printed edition may be purchased from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402 (202–783–3238).

Some employers may desire to subscribe to the quarterly update to the RTECS which is published in a microfiche edition. An annual subscription to the quarterly microfiche may be purchased from the GPO (Order the "Microfiche Edition, Registry of Toxic Effects of Chemical Substances"). Both the printed edition and the microfiche edition of RTECS are available for review at many university and public libraries throughout the country. The latest RTECS editions may also be examined at the OSHA Technical Data Center, Room N2439—Rear, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210 (202–219–7500), or at any OSHA Regional or Area Office (*See*, major city telephone directories under U.S. Government—Labor Department).

4. New § 1926.34 is added to read as follows:

§ 1926.34 Means of egress.

(a) *General.* In every building or structure exits shall be so arranged and maintained as to provide free and unobstructed egress from all parts of the building or structure at all times when it is occupied. No lock or fastening to prevent free escape from the inside of any building shall be installed except in mental, penal, or corrective institutions where supervisory personnel is continually on duty and effective provisions are made to remove occupants in case of fire or other emergency.

(b) *Exit marking.* Exits shall be marked by a readily visible sign. Access to exits shall be marked by readily visible signs in all cases where the exit or way to reach it is not immediately visible to the occupants.

(c) *Maintenance and workmanship.* Means of egress shall be continually maintained free of all obstructions or impediments to full instant use in the case of fire or other emergency.

5. New § 1926.35 is added to read as follows:

§ 1926.35 Employee emergency action plans.

(a) *Scope and application.* This section applies to all emergency action plans required by a particular OSHA standard. The emergency action plan shall be in writing (except as provided in the last sentence of paragraph (e)(3) of this section) and shall cover those designated actions employers and employees must take to ensure employee safety from fire and other emergencies.

(b) *Elements.* The following elements, at a minimum, shall be included in the plan:

(1) Emergency escape procedures and emergency escape route assignments;

(2) Procedures to be followed by employees who remain to operate critical plant operations before they evacuate;

(3) Procedures to account for all employees after emergency evacuation has been completed;

(4) Rescue and medical duties for those employees who are to perform them;

(5) The preferred means of reporting fires and other emergencies; and

(6) Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.

(c) *Alarm system.* (1) The employer shall establish an employee alarm system which complies with §1926.159.

(2) If the employee alarm system is used for alerting fire brigade members, or for other purposes, a distinctive signal for each purpose shall be used.

(d) *Evacuation.* The employer shall establish in the emergency action plan the types of evacuation to be used in emergency circumstances.

(e) *Training.* (1) Before implementing the emergency action plan, the employer shall designate and train a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees.

(2) The employer shall review the plan with each employee covered by the plan at the following times:

(i) Initially when the plan is developed,

(ii) Whenever the employee's responsibilities or designated actions under the plan change, and

(iii) Whenever the plan is changed.

(3) The employer shall review with each employee upon initial assignment those parts of the plan which the employee must know to protect the employee in the event of an emergency. The written plan shall be kept at the workplace and made available for employee review. For those employers with 10 or fewer employees the plan

may be communicated orally to employees and the employer need not maintain a written plan.

Subpart D—Occupational Health and Environmental Control

6. New § 1926.50(g) is added to read as follows:

§ 1926.50 Medical services and first aid.

* * * * *

(g) Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.

7. New paragraphs (a)(6), (d)(2), (f)(2) through (4) and (g) through (i) are added to § 1926.51 and the text of existing § 1926.51 (d) and (f) are redesignated as new paragraphs (d)(1) and (f)(1), respectively. The text of these standards read as follows

§ 1926.51 Sanitation.

(a)

* * * * *

(6) *Potable water* means water which meets the quality standards prescribed in the U.S. Public Health Service Drinking Water Standards, published in 42 CFR part 72, or water which is approved for drinking purposes by the State or local authority having jurisdiction.

* * * * *

(d) *Food handling.*

* * * * *

(2) All employee food service facilities and operations shall be carried out in accordance with sound hygienic principles. In all places of employment where all or part of the food service is provided, the food dispensed shall be wholesome, free from spoilage, and shall be processed, prepared, handled, and stored in such a manner as to be protected against contamination.

* * * * *

(f) *Washing facilities.*

* * * * *

(2) *General.* Washing facilities shall be maintained in a sanitary condition.

(3) *Lavatories.* (i) Lavatories shall be made available in all places of employment. The requirements of this subdivision do not apply to mobile crews or to normally unattended work locations if employees working at these locations have transportation readily available to nearby washing facilities which meet the other requirements of this paragraph.

(ii) Each lavatory shall be provided with hot and cold running water, or tepid running water.

(iii) Hand soap or similar cleansing agents shall be provided.

(iv) Individual hand towels or sections thereof, of cloth or paper, warm air blowers or clean individual sections of continuous cloth toweling, convenient to the lavatories, shall be provided.

(4) *Showers.* (i) Whenever showers are required by a particular standard, the showers shall be provided in accordance with paragraphs (f)(4) (ii) through (v) of this section.

(ii) One shower shall be provided for each 10 employees of each sex, or numerical fraction thereof, who are required to shower during the same shift.

(iii) Body soap or other appropriate cleansing agents convenient to the showers shall be provided as specified in paragraph (f)(3)(iii) of this section.

(iv) Showers shall be provided with hot and cold water feeding a common discharge line.

(v) Employees who use showers shall be provided with individual clean towels.

(g) *Eating and drinking areas.* No employee shall be allowed to consume food or beverages in a toilet room nor in any area exposed to a toxic material.

(h) *Vermin control.* Every enclosed workplace shall be so constructed, equipped, and maintained, so far as reasonably practicable, as to prevent the entrance or harborage of rodents, insects, and other vermin. A continuing and effective extermination program shall be instituted where their presence is detected.

(i) *Change rooms.* Whenever employees are required by a particular standard to wear protective clothing because of the possibility of contamination with toxic materials, change rooms equipped with storage facilities for street clothes and separate storage facilities for the protective clothing shall be provided.

8. In § 1926.53, paragraphs (c) through (r) are added to read as follows:

§ 1926.53 Ionizing radiation.

* * * * *

(c) *Definitions applicable to this section.* (1) *Radiation* includes alpha rays, beta rays, gamma rays, X-rays, neutrons, high-speed electrons, high-speed protons, and other atomic particles; but such term does not include sound or radio waves, or visible light, or infrared or ultraviolet light.

(2) *Radioactive material* means any material which emits, by spontaneous nuclear disintegration, corpuscular or electromagnetic emanations.

(3) *Restricted area* means any area access to which is controlled by the employer for purposes of protection of individuals from exposure to radiation or radioactive materials.

(4) *Unrestricted area* means any area access to which is not controlled by the employer for purposes of protection of individuals from exposure to radiation or radioactive materials.

(5) *Dose* means the quantity of ionizing radiation absorbed, per unit of mass, by the body or by any portion of the body. When the provisions in this section specify a dose during a period of time, the dose is the total quantity of radiation absorbed, per unit of mass, by the body or by any portion of the body during such period of time. Several different units of dose are in current use. Definitions of units used in this section are set forth in paragraphs (c) (6) and (7) of this section.

(6) *Rad* means a measure of the dose of any ionizing radiation to body tissues in terms of the energy absorbed per unit of mass of the tissue. One rad is the dose corresponding to the absorption of 100 ergs per gram of tissue (1 millirad (mrad)=0.001 rad).

(7) *Rem* means a measure of the dose of any ionizing radiation to body tissue in terms of its estimated biological effect relative to a dose of 1 roentgen (r) of X-rays (1 millirem (mrem)=0.001 rem). The relation of the rem to other dose units depends upon the biological effect under consideration and upon the conditions for irradiation. Each of the following is considered to be equivalent to a dose of 1 rem:

(i) A dose of 1 roentgen due to X- or gamma radiation;

(ii) A dose of 1 rad due to X-, gamma, or beta radiation;

(iii) A dose of 0.1 rad due to neutrons or high energy protons;

(iv) A dose of 0.05 rad due to particles heavier than protons and with sufficient energy to reach the lens of the eye;

(v) If it is more convenient to measure the neutron flux, or equivalent, than to determine the neutron dose in rads, as provided in paragraph (c)(7)(iii) of this section, 1 rem of neutron radiation may, for purposes of the provisions in this section be assumed to be equivalent to 14 million neutrons per square centimeter incident upon the body; or, if there is sufficient information to estimate with reasonable accuracy the approximate distribution in energy of the neutrons, the incident number of neutrons per square centimeter equivalent to 1 rem may be estimated from Table D–53.1:

TABLE D–53.1—NEUTRON FLUX DOSE EQUIVALENTS

Neutron energy (million electron volts (Mev))	Number of neutrons per square centimeter equivalent to a dose of 1 rem (neutrons/cm^2)	Average flux to deliver 100 millirem in 40 hours (neutrons/cm^2 per sec.)
Thermal	970×10^6	670
0.0001	720×10^6	500
0.005	820×10^6	570
0.02	400×10^6	280
0.1	120×10^6	80
0.5	43×10^6	30
1.0	26×10^6	18
2.5	29×10^6	20
5.0	26×10^6	18
7.5	24×10^6	17
10	24×10^6	17
10 to 30	14×10^6	10

(8) For determining exposures to X- or gamma rays up to 3 Mev., the dose limits specified in this section may be assumed to be equivalent to the "air dose". For the purpose of this section *air dose* means that the dose is measured by a properly calibrated appropriate instrument in air at or near the body surface in the region of the highest dosage rate.

(d) *Exposure of individuals to radiation in restricted areas.* (1) Except as provided in other paragraphs of this section, no employer shall possess, use, or transfer sources of ionizing radiation in such a manner as to cause any individual in a restricted area to receive in any period of one calendar quarter from sources in the employer's possession or control a dose in excess of the limits specified in Table D–53.2:

TABLE D–53.2

	Rems per calendar quarter
Whole body: Head and trunk; active blood-forming organs; lens of eyes; or gonads	1¼
Hands and forearms; feet and ankles	18¾
Skin of whole body	7½

(2) An employer may permit an individual in a restricted area to receive doses to the whole body greater than those permitted under paragraph (d)(1) of this section, so long as:

(i) During any calendar quarter the dose to the whole body shall not exceed 3 rems; and

(ii) The dose to the whole body, when added to the accumulated occupational dose to the whole body, shall not exceed 5 (N–18) rems, where "N" equals the individual's age in years at his last birthday; and

(iii) The employer maintains adequate past and current exposure records which show that the addition of such a dose will not cause the individual to exceed the amount authorized in this subparagraph. As used in this subparagraph *Dose to the whole body* shall be deemed to include any dose to the whole body, gonad, active bloodforming organs, head and trunk, or lens of the eye.

(3) No employer shall permit any employee who is under 18 years of age to receive in any period of one calendar quarter a dose in excess of 10 percent of the limits specified in Table D–53.2.

(4) *Calendar quarter* means any 3-month period determined as follows:

(i) The first period of any year may begin on any date in January: *Provided,* That the second, third, and fourth periods accordingly begin on the same date in April, July, and October, respectively, and that the fourth period extends into January of the succeeding year, if necessary to complete a 3-month quarter. During the first year of use of this method of determination, the first period for that year shall also include any additional days in January preceding the starting date for the first period; or

(ii) The first period in a calendar year of 13 complete, consecutive calendar weeks; the second period in a calendar year of 13 complete, consecutive weeks; the third period in a calendar year of 13 complete, consecutive calendar weeks; the fourth period in a calendar year of 13 complete, consecutive calendar weeks. If at the end of a calendar year there are any days not falling within a complete calendar week of that year, such days shall be included within the last complete calendar week of that year. If at the beginning of any calendar year there are days not falling within a complete calendar week of that year, such days shall be included within the last complete calendar week of the previous year; or

(iii) The four periods in a calendar year may consist of the first 14 complete, consecutive calendar weeks; the next 12 complete, consecutive calendar weeks, the next 14 complete, consecutive calendar weeks, and the last 12 complete, consecutive calendar weeks. If at the end of a calendar year there are any days not falling within a complete calendar week of that year, such days shall be included (for purposes of this section) within the last complete calendar week of the year. If at the beginning of any calendar year there are days not falling within a complete calendar week of that year, such days shall be included (for purposes of this section) within the last complete week of the previous year.

(e) *Exposure to airborne radioactive material.* (1) No employer shall possess, use or transport radioactive material in such a manner as to cause any employee, within a restricted area, to be exposed to airborne radioactive material in an average concentration in excess of the limits specified in Table 1 of appendix B to 10 CFR part 20. The limits given in Table 1 are for exposure to the concentrations specified for 40 hours in any workweek of 7 consecutive days. In any such period where the number of hours of exposure is less than 40, the limits specified in the table may be increased proportionately. In any such period where the number of hours of exposure is greater than 40, the limits specified in the table shall be decreased proportionately.

(2) No employer shall possess, use, or transfer radioactive material in such a manner as to cause any individual within a restricted area, who is under 18 years of age, to be exposed to airborne radioactive material in an average concentration in excess of the limits specified in Table II of appendix B to 10 CFR part 20. For purposes of this paragraph, concentrations may be averaged over periods not greater than 1 week.

(3) *Exposed* as used in this paragraph means that the individual is present in an airborne concentration. No allowance shall be made for the use of protective clothing or equipment, or particle size.

(f) *Precautionary procedures and personal monitoring.* (1) Every employer shall make such surveys as may be necessary for him to comply with the provisions in this section. *Survey* means an evaluation of the radiation hazards incident to the production, use, release, disposal, or presence of radioactive materials or other sources of radiation under a specific set of conditions. When appropriate, such evaluation includes a physical survey of the location of materials and equipment, and measurements of levels of radiation or concentrations of radioactive material present.

(2) Every employer shall supply appropriate personnel monitoring equipment, such as film badges, pocket chambers, pocket dosimeters, or film rings, and shall require the use of such equipment by:

(i) Each employee who enters a restricted area under such circumstances that he receives, or is likely to receive, a dose in any calendar quarter in excess of 25 percent of the applicable value specified in paragraph (d)(1) of this section; and

(ii) Each employee under 18 years of age who enters a restricted area under such circumstances that he receives, or is likely to receive, a dose in any calendar quarter in excess of 5 percent of the applicable value specified in paragraph (d)(1) of this section; and

(iii) Each employee who enters a high radiation area.

(3) As used in this section:

(i) *Personnel monitoring equipment* means devices designed to be worn or carried by an individual for the purpose of measuring the dose received (e.g., film badges, pocket chambers, pocket dosimeters, film rings, etc.);

(ii) *Radiation area* means any area, accessible to personnel, in which there exists radiation at such levels that a major portion of the body could receive in any 1 hour a dose in excess of 5 millirem, or in any 5 consecutive days a dose in excess of 100 millirem; and

(iii) *High radiation area* means any area, accessible to personnel, in which there exists radiation at such levels that a major portion of the body could receive in any one hour a dose in excess of 100 millirem.

(g) *Caution signs, labels, and signals*—(1) *General.* (i) Symbols prescribed by this paragraph shall use the conventional radiation caution colors (magenta or purple on yellow background). The symbol prescribed by this paragraph is the conventional three-bladed design:

RADIATION SYMBOL

1. Cross-hatched area is to be magenta or purple.
2. Background is to be yellow.

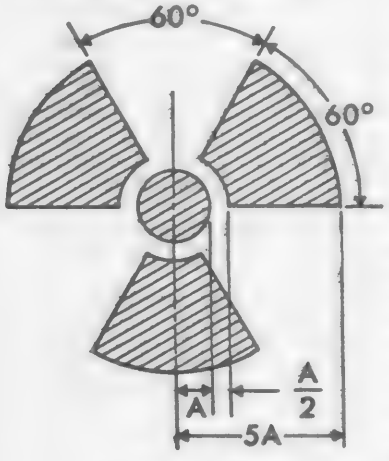


Figure B-2

(2) *Radiation area.* Each radiation area shall be conspicuously posted with a sign or signs bearing the radiation caution symbol described in paragraph (g)(1) of this section and the words:

CAUTION

RADIATION AREA

(3) *High radiation area.* (i) Each high radiation area shall be conspicuously posted with a sign or signs bearing the radiation caution symbol and the words:

CAUTION

HIGH RADIATION AREA

(ii) Each high radiation area shall be equipped with a control device which shall either cause the level of radiation to be reduced below that at which an individual might receive a dose of 100 millirems in 1 hour upon entry into the area or shall energize a conspicuous visible or audible alarm signal in such a manner that the individual entering and the employer or a supervisor of the activity are made aware of the entry. In the case of a high radiation area established for a period of 30 days or less, such control device is not required.

(4) *Airborne radioactivity area.* (i) As used in the provisions of this section, *airborne radioactivity area* means:

(A) Any room, enclosure, or operating area in which airborne radioactive materials, composed wholly or partly of radioactive material, exist in concentrations in excess of the amounts specified in column 1 of Table 1 of appendix B to 10 CFR part 20 or

(B) Any room, enclosure, or operating area in which airborne radioactive materials exist in concentrations which, averaged over the number of hours in any week during which individuals are in the area, exceed 25 percent of the amounts specified in column 1 of Table 1 of appendix B to 10 CFR part 20.

(ii) Each airborne radioactivity area shall be conspicuously posted with a sign or signs bearing the radiation caution symbol described in paragraph (g)(1) of this section and the words:

CAUTION

AIRBORNE RADIOACTIVITY AREA

(5) *Additional requirements*—(i) Each area or room in which radioactive material is used or stored and which contains any radioactive material (other than natural uranium or thorium) in any amount exceeding 10 times the quantity of such material specified in appendix C to 10 CFR part 20 shall be conspicuously posted with a sign or signs bearing the radiation caution symbol described in paragraph (g)(1) of this section and the words:

CAUTION

RADIOACTIVE MATERIALS

(ii) Each area or room in which natural uranium or thorium is used or stored in an amount exceeding 100 times the quantity of such material specified in 10 CFR part 20 shall be conspicuously posted with a sign or signs bearing the radiation caution symbol described in paragraph (g)(1) of this section and the words:

CAUTION

RADIOACTIVE MATERIALS

(6) *Containers.* (i) Each container in which is transported, stored, or used a quantity of any radioactive material (other than natural uranium or thorium) greater than the quantity of such material specified in appendix C to 10 CFR part 20 shall bear a durable, clearly visible label bearing the radiation caution symbol described in paragraph (g)(1) of this section and the words:

CAUTION

RADIOACTIVE MATERIALS

(ii) Each container in which natural uranium or thorium is transported, stored, or used in a quantity greater than 10 times the quantity specified in appendix C to 10 CFR part 20 shall bear a durable, clearly visible label bearing the radiation caution symbol described in paragraph (g)(1) of this section and the words:

CAUTION

RADIOACTIVE MATERIALS

(iii) Notwithstanding the provisions of paragraphs (g)(6) (i) and (ii) of this section a label shall not be required:

(A) If the concentration of the material in the container does not exceed that specified in column 2 of Table 1 of appendix B to 10 CFR part 20, or

(B) For laboratory containers, such as beakers, flasks, and test tubes, used transiently in laboratory procedures, when the user is present.

(iv) Where containers are used for storage, the labels required in this subparagraph shall state also the quantities and kinds of radioactive materials in the containers and the date of measurement of the quantities.

(h) *Immediate evacuation warning signal*—(1) *Signal characteristics.* (i) The signal shall be a midfrequency complex sound wave amplitude modulated at a subsonic frequency. The complex sound wave in free space shall have a fundamental frequency (f_1) between 450 and 500 hertz (Hz) modulated at a subsonic rate between 4 and 5 hertz.

(ii) The signal generator shall not be less than 75 decibels at every location where an individual may be present whose immediate, rapid, and complete evacuation is essential.

(iii) A sufficient number of signal units shall be installed such that the

requirements of paragraph (h)(1)(ii) of this section are met at every location where an individual may be present whose immediate, rapid, and complete evacuation is essential.

(iv) The signal shall be unique in the plant or facility in which it is installed.

(v) The minimum duration of the signal shall be sufficient to insure that all affected persons hear the signal.

(vi) The signal-generating system shall respond automatically to an initiating event without requiring any human action to sound the signal.

(2) *Design objectives.* (i) The signal-generating system shall be designed to incorporate components which enable the system to produce the desired signal each time it is activated within one-half second of activation.

(ii) The signal-generating system shall be provided with an automatically activated secondary power supply which is adequate to simultaneously power all emergency equipment to which it is connected, if operation during power failure is necessary, except in those systems using batteries as the primary source of power.

(iii) All components of the signal-generating system shall be located to provide maximum practicable protection against damage in case of fire, explosion, corrosive atmosphere, or other environmental extremes consistent with adequate system performance.

(iv) The signal-generating system shall be designed with the minimum number of components necessary to make it function as intended, and should utilize components which do not require frequent servicing such as lubrication or cleaning.

(v) Where several activating devices feed activating information to a central signal generator, failure of any activating device shall not render the signal-generator system inoperable to activating information from the remaining devices.

(vi) The signal-generating system shall be designed to enhance the probability that alarm occurs only when immediate evacuation is warranted. The number of false alarms shall not be so great that the signal will come to be disregarded and shall be low enough to minimize personal injuries or excessive property damage that might result from such evacuation.

(3) *Testing.* (i) Initial tests, inspections, and checks of the signal-generating system shall be made to verify that the fabrication and installation were made in accordance with design plans and specifications and to develop a thorough knowledge of the performance of the system and all components under normal and hostile conditions.

(ii) Once the system has been placed in service, periodic tests, inspections, and checks shall be made to minimize the possibility of malfunction.

(iii) Following significant alterations or revisions to the system, tests and checks similar to the initial installation tests shall be made.

(iv) Tests shall be designed to minimize hazards while conducting the tests.

(v) Prior to normal operation the signal-generating system shall be checked physically and functionally to assure reliability and to demonstrate accuracy and performance. Specific tests shall include:

(A) All power sources.

(B) Calibration and calibration stability.

(C) Trip levels and stability.

(D) Continuity of function with loss and return of required services such as AC or DC power, air pressure, etc.

(E) All indicators.

(F) Trouble indicator circuits and signals, where used.

(G) Air pressure (if used)

(H) Determine that sound level of the signal is within the limit of paragraph (h)(1)(ii) of this section at all points that require immediate evacuation.

(vi) In addition to the initial startup and operating tests, periodic scheduled performance tests and status checks must be made to insure that the system is at all times operating within design limits and capable of the required response. Specific periodic tests or checks or both shall include:

(A) Adequacy of signal activation device.

(B) All power sources.

(C) Function of all alarm circuits and trouble indicator circuits including trip levels.

(D) Air pressure (if used).

(E) Function of entire system including operation without power where required.

(F) Complete operational tests including sounding of the signal and determination that sound levels are adequate.

(vii) Periodic tests shall be scheduled on the basis of need, experience, difficulty, and disruption of operations. The entire system should be operationally tested at least quarterly.

(viii) All employees whose work may necessitate their presence in an area covered by the signal shall be made familiar with the actual sound of the signal—preferably as it sounds at their work location. Before placing the system into operation, all employees normally working in the area shall be made acquainted with the signal by actual demonstration at their work locations.

(i) *Exceptions from posting requirements.* Notwithstanding the provisions of paragraph (g) of this section:

(1) A room or area is not required to be posted with a caution sign because of the presence of a sealed source, provided the radiation level 12 inches (30.48 cm) from the surface of the source container or housing does not exceed 5 millirem per hour.

(2) Rooms or other areas in onsite medical facilities are not required to be posted with caution signs because of the presence of patients containing radioactive material, provided that there are personnel in attendance who shall take the precautions necessary to prevent the exposure of any individual to radiation or radioactive material in excess of the limits established in the provisions of this section.

(3) Caution signs are not required to be posted at areas or rooms containing radioactive materials for periods of less than 8 hours: *Provided,* That

(i) The materials are constantly attended during such periods by an individual who shall take the precautions necessary to prevent the exposure of any individual to radiation or radioactive materials in excess of the limits established in the provisions of this section; and

(ii) Such area or room is subject to the employer's control.

(j) *Exemptions for radioactive materials packaged for shipment.* Radioactive materials packaged and labeled in accordance with regulations of the Department of Transportation published in 49 CFR Chapter I, are exempt from the labeling and posting requirements of this subpart during shipment, provided that the inside containers are labeled in accordance with the provisions of paragraph (g) of this section.

(i) *Instruction of personnel, posting.* (1) Employers regulated by the Nuclear Regulatory Commission shall be governed by 10 CFR part 20 standards. Employers in a State named in paragraph (r)(3) of this section shall be governed by the requirements of the laws and regulations of that State. All other employers shall be regulated by the following:

(2) All individuals working in or frequenting any portion of a radiation area shall be informed of the occurrence of radioactive materials or of radiation in such portions of the radiation area; shall be instructed in the safety problems associated with exposure to such materials or radiation and in precautions or devices to minimize

exposure; shall be instructed in the applicable provisions of this section for the protection of employees from exposure to radiation or radioactive materials; and shall be advised of reports of radiation exposure which employees may request pursuant to the regulations in this section.

(3) Each employer to whom this section applies shall post a current copy of its provisions and a copy of the operating procedures applicable to the work conspicuously in such locations as to insure that employees working in or frequenting radiation areas will observe these documents on the way to and from their place of employment, or shall keep such documents available for examination of employees upon request.

(l) *Storage of radioactive materials.* Radioactive materials stored in a nonradiation area shall be secured against unauthorized removal from the place of storage.

(m) *Waste disposal.* No employer shall dispose of radioactive material except by transfer to an authorized recipient, or in a manner approved by the Nuclear Regulatory Commission or a State named in paragraph (r)(3) of this section.

(n) *Notification of incidents*—(1) *Immediate notification.* Each employer shall immediately notify the Assistant Secretary of Labor or his duly authorized representative, for employees not profected by the Nuclear Regulatory Commission by means of 10 CFR part 20; paragraph (r)(2) of this section, or the requirements of the laws and regulations of States named in paragraph (r)(3) of this section, by telephone or telegraph of any incident involving radiation which may have caused or threatens to cause:

(i) Exposure of the whole body of any individual to 25 rems or more of radiation; exposure of the skin of the whole body of any individual to 150 rems or more of radiation; or exposure of the feet, ankles, hands, or forearms of any individual to 375 rems or more of radiation; or

(ii) The release of radioactive material in concentrations which, if averaged over a period of 24 hours, would exceed 5,000 times the limit specified for such materials in Table II of appendix B to 10 CFR part 20.

(2) *Twenty-four hour notification.* Each employer shall within 24 hours following its occurrence notify the Assistant Secretary of Labor or his duly authorized representative for employees not protected by the Nuclear Regulatory Commission by means of 10 CFR part 20; paragraph (r)(2) of this section, or the requirements of the laws and applicable regulations of States named in paragraph (r)(3) of this section, by telephone or telegraph of any incident involving radiation which may have caused or threatens to cause:

(i) Exposure of the whole body of any individual to 5 rems or more of radiation; exposure of the skin of the whole body of any individual to 30 rems or more of radiation; or exposure of the feet, ankles, hands, or forearms to 75 rems or more of radiation; or

(o) *Reports of overexposure and excessive levels and concentrations.* (1) In addition to any notification required by paragraph (n) of this section each employer shall make a report in writing within 30 days to the Assistant Secretary of Labor or his duly authorized representative, for employees not protected by the Nuclear Regulatory Commission by means of 10 CFR part 20; or under paragraph (r)(2) of this section, or the requirements of the laws and regulations of States named in paragraph (r)(3) of this section, of each exposure of an individual to radiation or concentrations of radioactive material in excess of any applicable limit in this section. Each report required under this paragraph shall describe the extent of exposure of persons to radiation or to radioactive material; levels of radiation and concentration of radioactive material involved, the cause of the exposure, levels of concentrations; and corrective steps taken or planned to assure against a recurrence.

(2) In any case where an employer is required pursuant to the provisions of this paragraph to report to the U.S. Department of Labor any exposure of an individual to radiation or to concentrations of radioactive material, the employer shall also notify such individual of the nature and extent of exposure. Such notice shall be in writing and shall contain the following statement: "You should preserve this report for future reference."

(p) *Records.* (1) Every employer shall maintain records of the radiation exposure of all employees for whom personnel monitoring is required under paragraph (f) of this section and advise each of his employees of his individual exposure on at least an annual basis.

(2) Every employer shall maintain records in the same units used in tables in paragraph (d) of this section and appendix B to 10 CFR part 20.

(q) *Disclosure to former employee of individual employee's record.* (1) At the request of a former employee an employer shall furnish to the employee a report of the employee's exposure to radiation as shown in records maintained by the employer pursuant to paragraph (p)(1) of this section. Such report shall be furnished within 30 days from the time the request is made, and shall cover each calendar quarter of the individual's employment involving exposure to radiation or such lesser period as may be requested by the employee. The report shall also include the results of any calculations and analysis of radioactive material deposited in the body of the employee. The report shall be in writing and contain the following statement: "You should preserve this report for future reference."

(r) *Nuclear Regulatory Commission licensees—NRC contractors operating NRC plants and facilities—NRC Agreement State licensees or registrants.* (1) Any employer who possesses or uses source material, byproduct material, or special nuclear material, as defined in the Atomic Energy Act of 1954, as amended, under a license issued by the Nuclear Regulatory Commission and in accordance with the requirements of 10 CFR part 20 shall be deemed to be in compliance with the requirements of this section with respect to such possession and use.

(2) NRC contractors operating NRC plants and facilities: Any employer who possesses or uses source material, byproduct material, special nuclear material, or other radiation sources under a contract with the Nuclear Regulatory Commission for the operation of NRC plants and facilities and in accordance with the standards, procedures, and other requirements for radiation protection established by the Commission for such contract pursuant to the Atomic Energy Act of 1954 as amended (42 U.S.C. 2011 et seq.), shall be deemed to be in compliance with the requirements of this section with respect to such possession and use.

(3) NRC-agreement State licensees or registrants:

(i) *Atomic Energy Act sources.* Any employer who possesses or uses source material, byproduct material, or special nuclear material, as defined in the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.), and has either registered such sources with, or is operating under a license issued by, a State which has an agreement in effect with the Nuclear Regulatory Commission pursuant to section 274(b) (42 U.S.C. 2021(b)) of the Atomic Energy Act of 1954, as amended, and in accordance with the requirements of that State's laws and regulations shall be deemed to be in compliance with the radiation requirements of this section, insofar as his possession and use of such material is concerned, unless the Secretary of Labor, after conference with the Nuclear Regulatory Commission,

shall determine that the State's program for control of these radiation sources is incompatible with the requirements of this section. Such agreements currently are in effect only in the States of Alabama, Arkansas, California, Kansas, Kentucky, Florida, Mississippi, New Hampshire, New York, North Carolina, Texas, Tennessee, Oregon, Idaho, Arizona, Colorado, Louisiana, Nebraska, Washington, Maryland, North Dakota, South Carolina, and Georgia.

(ii) *Other sources.* Any employer who possesses or uses radiation sources other than source material, byproduct material, or special nuclear material, as defined in the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.), and has either registered such sources with, or is operating under a license issued by a State which has an agreement in effect with the Nuclear Regulatory Commission pursuant to section 274(b) (42 U.S.C. 2021(b)) of the Atomic Energy Act of 1954, as amended, and in accordance with the requirements of that State's laws and regulations shall be deemed to be in compliance with the radiation requirements of this section, insofar as his possession and use of such material is concerned, provided the State's program for control of these radiation sources is the subject of a currently effective determination by the Assistant Secretary of Labor that such program is compatible with the requirements of this section. Such determinations currently are in effect only in the States of Alabama, Arkansas, California, Kansas, Kentucky, Florida, Mississippi, New Hampshire, New York, North Carolina, Texas, Tennessee, Oregon, Idaho, Arizona, Colorado, Louisiana, Nebraska, Washington, Maryland, North Dakota, South Carolina, and Georgia.

(Approved by the Office of Management and Budget under control number 1218–0103)

§ 1926.55 Gases, vapors, fumes, dusts, and mists. [Amended]

9. In § 1926.55(a), the following new sentence is added to the end of the paragraph: "See Appendix A to this section." In addition, a new table is added as Appendix A to the section. The text of the new appendix reads as follows:

Appendix A to § 1926.55—1970 American Conference of Governmental Industrial Hygienists' Threshold Limit Values of Airborne Contaminants

Threshold Limit Values of Airborne Contaminants for Construction

Substance	CAS No.[d]	ppm[a]	mg/m³[b]	Skin Designation
Abate; see Temephos.				
Acetaldehyde	75–07–0	200	360	—
Acetic acid	64–19–7	10	25	—
Acetic anhydride	108–24–7	5	20	—
Acetone	67–64–1	1000	2400	—
Acetonitrile	75–05–8	40	70	—
2-Acetylaminofluorine; see § 1926.1114	53–96–3			
Acetylene	74–86–2	E		
Acetylene dichloride; see 1,2-Dichloroethylene.				
Acetylene tetrabromide	79–27–6	1	14	—
Acrolein	107–02–8	0.1	0.25	—
Acrylamide	79–06–1	—	0.3	X
Acrylonitrile; see § 1926.1145	107–13–1			
Aldrin	309–00–2	—	0.25	X
Allyl alcohol	107–18–6	2	5	X
Allyl chloride	107–05–1	1	3	—
Allyl glycidyl ether (AGE)	106–92–3	(C)10	(C)45	—
Allyl propyl disulfide	2179–59–1	2	12	—
alpha-Alumina	1344–28–1			
Total dust		—	15	—
Respirable fraction		—	5	—
Aluminum, (as Al) Metal	7429–90–5			
Total dust		—	15	—
Respirable fraction		—	5	—
Alundum; see alpha-Alumina				
4-Aminodiphenyl; see § 1926.1111	92–67–1			
2-Aminoethanol; see Ethanolamine.				
2-Aminopyridine	504–29–0	0.5	2	—
Ammonia	7664–41–7	50	35	—
Ammonium sulfamate	7773–06–0			
Total dust		—	15	—
Respirable fraction		—	5	—
n-Amyl acetate	628–63–7	100	525	—
sec-Amyl acetate	626–38–0	125	650	—
Aniline and homologs	62–53–3	5	19	X
Anisidine (o-, p-isomers)	29191–52–4	—	0.5	X
Antimony and compounds (as Sb)	7440–36–0	—	0.5	—
ANTU (alpha Naphthylthiourea)	86–88–4	—	0.3	—
Argon	7440–37–1	E		
Arsenic, inorganic compounds (as As); see § 1926.1118	7440–38–2	—	—	—
Arsenic, organic compounds (as As)	7440–38–2	—	0.5	—
Arsine	7784–42–1	0.05	0.2	—
Asbestos; see 1926.58.				
Azinphos-methyl	86–50–0	—	0.2	X
Barium, soluble compounds (as Ba)	7440–39–3	—	0.5	—
Barium sulfate	7727–43–7			

Threshold Limit Values of Airborne Contaminants for Construction—Continued

Substance	CAS No.[d]	ppm[a]	mg/m^3[b]	Skin Designation
Total dust		—	15	—
Respirable fraction		—	5	—
Benomyl	17804–35–2			
Total dust		—	15	—
Respirable fraction		—	5	—
Benzene[g]; see § 1926.1128	71–43–2			
Benzidine; see § 1926.1110	92–87–5			
p-Benzoquinone; see Quinone.				
Benzo(a)pyrene; see Coal tar pitch volatiles.				
Benzoyl peroxide	94–36–0	—	5	—
Benzyl chloride	100–44–7	1	5	—
Beryllium and beryllium compounds (as Be)	7440–41–7	—	0.002	—
Biphenyl; see Diphenyl.				
Bismuth telluride, Undoped	1304–82–1			
Total dust		—	15	—
Respirable fraction		—	5	—
Bisphenol A; see Diglycidyl ether.				
Boron oxide	1303–86–2			
Total dust		—	15	—
Boron tribromide	10294–33–4	1	10	—
Boron trifluoride	7637–07–2	(C)1	(C)3	—
Bromine	7726–95–6	0.1	0.7	—
Bromine pentafluoride	7789–30–2	0.1	0.7	—
Bromoform	75–25–2	0.5	5	X
Butadiene (1,3-Butadiene)[h]	106–99–0	1000	2200	—
Butanethiol; see Butyl mercaptan.				
2-Butanone (Methyl ethyl ketone)	78–93–3	200	590	—
2-Butoxyethanol	111–76–2	50	240	X
n-Butyl-acetate	123–86–4	150	710	—
sec-Butyl acetate	105–46–4	200	950	—
tert-Butyl acetate	540–88–5	200	950	—
n-Butyl alcohol	71–36–3	100	300	—
sec-Butyl alcohol	78–92–2	150	450	—
tert-Butyl alcohol	75–65–0	100	300	—
Butylamine	109–73–9	(C)5	(C)15	X
tert-Butyl chromate (as CrO_3)	1189–85–1	—	(C)0.1	X
n-Butyl glycidyl ether (BGE)	2426–08–6	50	270	—
Butyl mercaptan	109–79–5	0.5	1.5	—
p-tert-Butyltoluene	98–51–1	10	60	—
Cadmium dust fume (as Cd); see 1926.1127	7440–43–9	—	—	—
Calcium carbonate	1317–65–3			
Total dust		—	15	—
Respirable fraction		—	5	—
Calcium hydroxide	1305–62–0	—	—	—
Calcium hydroxide.				
Total dust		—	15	—
Respirable fraction		—	5	—
Calcium oxide	1305–78–8	—	5	—
Calcium silicate	1344–95–2			
Total dust		—	15	—
Respirable fraction		—	5	—
Calcium sulfate	7778–18–9			
Total dust		—	15	—
Respirable fraction		—	5	—
Camphor, synthetic	76–22–2	—	2	—
Carbaryl (Sevin)	63–25–2	—	5	—
Carbon black	1333–86–4	—	3.5	—
Carbon dioxide	124–38–9	5000	9000	—
Carbon disulfide	75–15–0	20	60	X
Carbon monoxide	630–08–0	50	55	—
Carbon tetrachloride	56–23–5	10	65	X
Cellulose	9004–34–6			
Total dust		—	15	—
Respirable fraction		—	5	—
Chlordane	57–74–9	—	0.5	X
Chlorinated camphene	8001–35–2	—	0.5	X
Chlorinated diphenyl oxide	55720–99–5	—	0.5	—
Chlorine	7782–50–5	1	3	—
Chlorine trifluoride	7790–91–2	(C)0.1	(C)0.4	—
Chloroacetaldehyde	107–20–0	(C)1	(C)3	—
a-Chloroacetophenone (Phenacyl chloride)	532–27–4	0.05	0.3	—

Threshold Limit Values of Airborne Contaminants for Construction—Continued

Substance	CAS No.[d]	ppm[a]	mg/m^3[b]	Skin Designation
Chlorobenzene	108–90–7	75	350	—
o-Chlorobenzylidene malononitrile	2698–41–1	0.05	0.4	—
Chlorobromomethane	74–97–5	200	1050	—
2-Chloro-1,3-butadiene; see beta-Chloroprene.				
Chlorodiphenyl (42% Chlorine) (PCB)	53469–21–9	—	1	X
Chlorodiphenyl (54% Chlorine) (PCB)	11097–69–1	—	0.5	X
1-Chloro,2,3-epoxypropane; see Epichlorohydrin.				
2-Chloroethanol; see Ethylene chlorohydrin.				
Chloroethylene; see Vinyl chloride.				
Chloroform (Trichloromethane)	67–66–3	50	240	—
bis(Chloromethyl) ether; see § 1926.1108	542–88–1			
Chloromethyl methyl ether; see § 1926.1106	107–30–2			
1-Chloro-1-nitropropane	600–25–9	20	100	—
Chloropicrin	76–06–2	0.1	0.7	—
beta-Chloroprene	126–99–8	25	90	X
2-Chloro-6-(trichloromethyl) pyridine	1929–82–4			
Total dust		—	15	—
Respirable fraction		—	5	—
Chromic acid and chromates.				
(as CrO_3)	Varies with compound	—	0.1	—
Chromium (II) compounds.				
(as Cr)	7440–47–3	—	0.5	—
Chromium (III) compounds.				
(as Cr)	7440–47–3	—	0.5	—
Chromium metal and insol. salts (as Cr)	7440–47–3	—	1	—
Chrysene; see Coal tar pitch volatiles.				
Clopidol	2971–90–6			
Total dust		—	15	—
Respirable fraction		—	5	—
Coal tar pitch volatiles (benzene soluble fraction), anthracene, BaP, phenanthrene, acridine, chrysene, pyrene	65966–93–2	—	0.2	—
Cobalt metal, dust, and fume (as Co)	7440–48–4	—	0.1	—
Coke oven emissions; see § 1926.1129	—	—	0.15	—
Copper	7440–50–8			
Fume (as Cu)		—	0.1	—
Dusts and mists (as Cu)		—	1	—
Corundum; see Emery.				
Cotton dust (raw)		—	1	
Crag herbicide (Sesone)	136–78–7			
Total dust		—	15	—
Respirable fraction		—	5	—
Cresol, all isomers	1319–77–3	5	22	X
Crotonaldehyde	123–73–9; 4170–30–3	2	6	
Cumene	98–82–8	50	245	X
Cyanides (as CN)	Varies with Compound	—	5	—
Cyanogen	460–19–5	10	—	—
Cyclohexane	110–82–7	300	1050	—
Cyclohexanol	108–93–0	50	200	—
Cyclohexanone	108–94–1	50	200	—
Cyclohexene	110–83–8	300	1015	—
Cyclonite	121–82–4	—	1.5	X
Cyclopentadiene	542–92–7	75	200	—
2,4-D (Dichlorophenoxyacetic acid)	94–75–7	—	10	—
Decaborane	17702–41–9	0.05	0.3	X
Demeton (Systox)	8065–48–3	—	0.1	X
Diacetone alcohol (4-Hydroxy-4-methyl-2-pentanone)	123–42–2	50	240	—
1,2-Diaminoethane; see Ethylenediamine.				
Diazomethane	334–88–3	0.2	0.4	—
Diborane	19287–45–7	0.1	0.1	—
1,2-Dibromo-3-chloropropane (CBCP); see § 1926.1144	96–12–8		—	
1,2-Dibromoethane; see Ethylene dibromide.				
Dibutyl phosphate	107–66–4	1	5	—
Dibutyl phthalate	84–74–2	—	5	—
Dichloroacetylene	7572–29–4	(C)0.1	(C)0.4	—
o-Dichlorobenzene	95–50–1	(C)50	(C)300	—
p-Dichlorobenzene	106–46–7	75	450	—
3,3'-Dichlorobenzidine; see § 1926.1107	91–94–1			

Threshold Limit Values of Airborne Contaminants for Construction—Continued

Substance	CAS No.[d]	ppm[a]	mg/m[3][b]	Skin Designation
Dichlorodifluoromethane	75–71–8	1000	4950	—
1,3-Dichloro-5,5-dimethyl hydantoin	118–52–5	—	0.2	—
Dichlorodiphenyltrichloroethane (DDT)	50–29–3	—	1	X
1,1-Dichloroethane	75–34–3	100	400	—
1,2-Dichloroethane; see Ethylene dichloride.				
1,2-Dichloroethylene	540–59–0	200	790	—
Dichloroethyl ether	111–44–4	(C)15	(C)90	X
Dichloromethane; see Methylene chloride.				
Dichloromonofluoromethane	75–43–4	1000	4200	—
1,1-Dichloro-1-nitroethane	594–72–9	(C)10	(C)60	—
1,2-Dichloropropane; see Propylene dichloride.				
Dichlorotetrafluoroethane	76–14–2	1000	7000	—
Dichlorvos (DDVP)	62–73–7	—	1	X
Dicyclopentadienyl iron	102–54–5			
Total dust		—	15	—
Respirable fraction		—	5	—
Dieldrin	60–57–1	—	0.25	X
Diethylamine	109–89–7	25	75	—
2-Diethylaminoethanol	100–37–8	10	50	—
Diethylene triamine	111–40–0	(C)10	(C)42	X
Diethyl ether; see Ethyl ether.				
Difluorodibromomethane	75–61–6	100	860	—
Diglycidyl ether (DGE)	2238–07–5	(C)0.5	(C)2.8	—
Dihydroxybenzene; see Hydroquinone.				
Diisobutyl ketone	108–83–8	50	290	—
Diisopropylamine	108–18–9	5	20	X
4-Dimethylaminoazobenzene; see § 1926.1115	60–11–7			
Dimethoxymethane; see Methylal.				
Dimethyl acetamide	127–19–5	10	35	X
Dimethylamine	124–40–3	10	18	—
Dimethylaminobenzene; see Xylidine.				
Dimethylaniline (N,N-Dimethylaniline)	121–69–7	5	25	X
Dimethylbenzene; see Xylene.				
Dimethyl-1,2-dibromo- 2,2-dichloroethyl phosphate	300–76–5	—	3	—
Dimethylformamide	68–12–2	10	30	X
2,6-Dimethyl-4-heptanone; see Diisobutyl ketone.				
1,1-Dimethylhydrazine	57–14–7	0.5	1	X
Dimethylphthalate	131–11–3	—	5	—
Dimethyl sulfate	77–78–3	1	5	X
Dinitrobenzene (all isomers)			1	X
(ortho)	528–29–0			
(meta)	99–65–0			
(para)	100–25–4			
Dinitro-o-cresol	534–52–1	—	0.2	X
Dinitrotoluene	25321–14–6	—	1.5	X
Dioxane (Diethylene dioxide)	123–91–1	100	360	X
Diphenyl (Biphenyl)	92–52–4	0.2	1	—
Diphenylamine	122–39–4	—	10	—
Diphenylmethane diisocyanate; see Methylene bisphenyl isocyanate.				
Dipropylene glycol methyl ether	34590–94–8	100	600	X
Di-sec octyl phthalate (Di-(2-ethylhexyl) phthalate)	117–81–7	—	5	—
Emery	12415–34–8			
Total dust		—	15	—
Respirable fraction		—	5	—
Endosulfan	115–29–7	—	0.1	X
Endrin	72–20–8	—	0.1	X
Epichlorohydrin	106–89–8	5	19	X
EPN	2104–64–5	—	0.5	X
1,2-Epoxypropane; see Propylene oxide.				
2,3-Epoxy-1-propanol; see Glycidol.				
Ethane	74–84–0	E		
Ethanethiol; see Ethyl mercaptan.				
Ethanolamine	141–43–5	3	6	—
2-Ethoxyethanol (Cellosolve)	110–80–5	200	740	X
2-Ethoxyethyl acetate (Cellosolve acetate)	111–15–9	100	540	X
Ethyl acetate	141–78–6	400	1400	—
Ethyl acrylate	140–88–5	25	100	X
Ethyl alcohol (Ethanol)	64–17–5	1000	1900	—
Ethylamine	75–04–7	10	18	
Ethyl amyl ketone (5-Methyl-3-heptanone)	541–85–5	25	130	—

Threshold Limit Values of Airborne Contaminants for Construction—Continued

Substance	CAS No.[d]	ppm[a]	mg/m³[b]	Skin Designation
Ethyl benzene	100-41-4	100	435	—
Ethyl bromide	74-96-4	200	890	—
Ethyl butyl ketone (3-Heptanone)	106-35-4	50	230	—
Ethyl chloride	75-00-3	1000	2600	—
Ethyl ether	60-29-7	400	1200	—
Ethyl formate	109-94-4	100	300	—
Ethyl mercaptan	75-08-1	0.5	1	—
Ethyl silicate	78-10-4	100	850	—
Ethylene	74-85-1	E		
Ethylene chlorohydrin	107-07-3	5	16	X
Ethylenediamine	107-15-3	10	25	—
Ethylene dibromide	106-93-4	(C)25	(C)190	X
Ethylene dichloride (1,2-Dichloroethane)	107-06-2	50	200	—
Ethylene glycol dinitrate	628-96-6	(C)0.2	(C)1	X
Ethylene glycol methyl acetate; see Methyl cellosolve acetate.				
Ethyleneimine; see § 1926.1112	151-56-4			
Ethylene oxide; see § 1926.1147	75-21-8			
Ethylidene chloride; see 1,1-Dichloroethane.				
N-Ethylmorpholine	100-74-3	20	94	X
Ferbam	14484-64-1			
Total dust		—	15	—
Ferrovanadium dust	12604-58-9	—	1	—
Fibrous Glass.				
Total dust			15	—
Respirable fraction		—	5	—
Fluorides (as F)	Varies with compound	—	2.5	—
Fluorine	7782-41-4	0.1	0.2	—
Fluorotrichloromethane (Trichlorofluoromethane)	75-69-4	1000	5600	—
Formaldehyde; see § 1926.1148	50-00-0			
Formic acid	64-18-6	5	9	—
Furfural	98-01-1	5	20	X
Furfuryl alcohol	98-00-0	50	200	—
Gasoline	8006-61-9		A[1]	—
Glycerin (mist)	56-81-5			
Total dust		—	15	—
Respirable fraction		—	5	—
Glycidol	556-52-5	50	150	—
Glycol monoethyl ether; see 2-Ethoxyethanol.				
Graphite, natural, respirable dust	7782-42-5	([2])	([2])	([2])
Graphite, synthetic				
Total dust		—	15	—
Respirable fraction		—	5	—
Guthion; see Azinphos methyl.				
Gypsum	13397-24-5			
Total dust		—	15	—
Respirable fraction		—	5	—
Hafnium	7440-58-6	—	0.5	—
Helium	7440-59-7	E		
Heptachlor	76-44-8	—	0.5	X
Heptane (n-Heptane)	142-82-5	500	2000	—
Hexachloroethane	67-72-1	1	10	X
Hexachloronaphthalene	1335-87-1	—	0.2	X
n-Hexane	110-54-3	500	1800	—
2-Hexanone (Methyl n-butyl ketone)	591-78-6	100	410	—
Hexone (Methyl isobutyl ketone)	108-10-1	100	410	—
sec-Hexyl acetate	108-84-9	50	300	—
Hydrazine	302-01-2	1	1.3	X
Hydrogen	1333-74-0	E		
Hydrogen bromide	10035-10-6	3	10	—
Hydrogen chloride	7647-01-0	(C)5	(C)7	—
Hydrogen cyanide	74-90-8	10	11	X
Hydrogen fluoride (as F)	7664-39-3	3	2	—
Hydrogen peroxide	7722-84-1	1	1.4	—
Hydrogen selenide (as Se)	7783-07-5	0.05		
Hydrogen sulfide	7783-06-4	10	15	—
Hydroquinone	123-31-9	—	2	—
Indene	95-13-6	10	45	—
Indium and compounds (as In)	7440-74-6	—	0.1	—
Iodine	7553-56-2	(C)0.1	(C)1	—

Threshold Limit Values of Airborne Contaminants for Construction—Continued

Substance	CAS No.[d]	ppm[a]	mg/m³[b]	Skin Designation
Iron oxide fume	1309–37–1	—	10	—
Iron salts (soluble) (as Fe)	Varies with compound	—	1	—
Isoamyl acetate	123–92–2	100	525	—
Isoamyl alcohol (primary and secondary)	123–51–3	100	360	—
Isobutyl acetate	110–19–0	150	700	—
Isobutyl alcohol	78–83–1	100	300	—
Isophorone	78–59–1	25	140	—
Isopropyl acetate	108–21–4	250	950	—
Isopropyl alcohol	67–63–0	400	980	—
Isopropylamine	75–31–0	5	12	—
Isopropyl ether	108–20–3	500	2100	—
Isopropyl glycidyl ether (IGE)	4016–14–2	50	240	—
Kaolin	1332–58–7			
Total dust		—	15	—
Respirable fraction		—	5	—
Ketene	463–51–4	0.5	0.9	—
Lead, inorganic (as Pb)	7439–92–1	—	0.2	—
Limestone	1317–65–3			
Total dust		—	15	—
Respirable fraction		—	5	—
Lindane	58–89–9	—	0.5	X
Lithium hydride	7580–67–8	—	0.025	—
L.P.G. (Liquefied petroleum gas)	68476–85–7	1000	1800	
Magnesite	546–93–0			
Total dust		—	15	—
Respirable fraction		—	5	—
Magnesium oxide fume	1309–48–4			
Total particulate		15	—	—
Malathion	121–75–5			
Total dust		—	15	X
Maleic anhydride	108–31–6	0.25		
Manganese compounds (as Mn)	7439–96–5	—	(C)5	—
Manganese fume (as Mn)	7439–96–5	—	(C)5	—
Marble	1317–65–3			
Total dust		—	15	—
Respirable fraction		—	5	—
Mercury (aryl and inorganic)(as Hg)	7439–97–6		0.1	X
Mercury (organo) alkyl compounds (as Hg)	7439–97–6	—	0.01	X
Mercury (vapor) (as Hg)	7439–97–6	—	0.1	X
Mesityl oxide	141–79–7	25	100	—
Methane	74–82–8	E		
Methanethiol; see Methyl mercaptan.				
Methoxychlor	72–43–5			
Total dust		—	15	—
2-Methoxyethanol (Methyl cellosolve)	109–86–4	25	80	X
2-Methoxyethyl acetate (Methyl cellosolve acetate)	110–49–6	25	120	X
Methyl acetate	79–20–9	200	610	—
Methyl acetylene (Propyne)	74–99–7	1000	1650	—
Methyl acetylene-propadiene mixture (MAPP)		1000	1800	—
Methyl acrylate	96–33–3	10	35	X
Methylal (Dimethoxy-methane)	109–87–5	1000	3100	—
Methyl alcohol	67–56–1	200	260	—
Methylamine	74–89–5	10	12	—
Methyl amyl alcohol; see Methyl isobutyl carbinol.				
Methyl n-amyl ketone	110–43–0	100	465	—
Methyl bromide	74–83–9	(C)20	(C)80	X
Methyl butyl ketone; see 2-Hexanone.				
Methyl cellosolve; see 2-Methoxyethanol.				
Methyl cellosolve acetate; see 2-Methoxyethyl acetate.				
Methyl chloride	74–87–3	100	210	—
Methyl chloroform (1,1,1-Trichloroethane)	71–55–6	350	1900	—
Methylcyclohexane	108–87–2	500	2000	—
Methylcyclohexanol	25639–42–3	100	470	—
o-Methylcyclohexanone	583–60–8	100	460	X
Methylene chloride[h]; see 56 FR 57036	75–09–2	500	1740	—
Methyl ethyl ketone (MEK); see 2-Butanone.				
Methyl formate	107–31–3	100	250	—
Methyl hydrazine (Monomethyl hydrazine)	60–34–4	(C)0.2	(C)0.35	X
Methyl iodide	74–88–4	5	28	X
Methyl isoamyl ketone	110–12–3	100	475	—

Threshold Limit Values of Airborne Contaminants for Construction—Continued

Substance	CAS No.[d]	ppm[a]	mg/m^3[b]	Skin Designation
Methyl isobutyl carbinol	108-11-2	25	100	X
Methyl isobutyl ketone; see Hexone.				
Methyl isocyanate	624-83-9	0.02	0.05	X
Methyl mercaptan	74-93-1	0.5	1	—
Methyl methacrylate	80-62-6	100	410	100
Methyl propyl ketone; see 2-Pentanone.				
Methyl silicate	681-84-5	5	30	—
alpha-Methyl styrene	98-83-9	(C)100	(C)480	—
Methylene bisphenyl isocyanate (MDI)	101-68-8	(C)0.02	(C)0.2	—
Mica; see Silicates.				
Mineral wool.				
Total dust		—	15	—
Respirable dust		—	5	—
Molybdenum (as Mo)	7439-98-7			
Soluble compounds		—	5	—
Insoluble compounds.				
Total dust		—	15	—
Monomethyl aniline	100-61-8	2	9	X
Monomethyl hydrazine; see Methyl hydrazine.				
Morpholine	110-91-8	20	70	X
Naphtha (Coal tar)	8030-30-6	100	400	—
Naphthalene	91-20-3	10	50	—
alpha-Naphthylamine; see § 1926.1104	134-32-7			
beta-Naphthylamine; see § 1926.1109	91-59-8			—
Neon	7440-01-9	E		
Nickel carbonyl (as Ni)	13463-39-3	0.001	0.007	—
Nickel, metal and insoluble compounds (as Ni)	7440-02-0	—	1	—
Nickel, soluble compounds (as Ni)	7440-02-0	—	1	—
Nicotine	54-11-5	—	0.5	X
Nitric acid	7697-37-2	2	5	—
Nitric oxide	10102-43-9	25	30	—
p-Nitroaniline	100-01-6	1	6	X
Nitrobenzene	98-95-3	1	5	X
p-Nitrochlorobenzene	100-00-5	—	1	X
4-Nitrodiphenyl; see § 1926.1103	92-93-3			
Nitroethane	79-24-3	100	310	—
Nitrogen	7727-37-9	E		
Nitrogen dioxide	10102-44-0	(C)5	(C)9	—
Nitrogen trifluoride	7783-54-2	10	29	—
Nitroglycerin	55-63-0	(C)0.2	(C)2	X
Nitromethane	75-52-5	100	250	—
1-Nitropropane	108-03-2	25	90	—
2-Nitropropane	79-46-9	25	90	—
N-Nitrosodimethylamine; see § 1926.1116	62-79-9			—
Nitrotoluene (all isomers)		5	30	X
o-isomer	88-72-2;			
m-isomer	99-08-1;			
p-isomer	99-99-0			
Nitrotrichloromethane; see Chloropicrin.				
Nitrous oxide	10024-97-2	E		
Octachloronaphthalene	2234-13-1	—	0.1	X
Octane	111-65-9	400	1900	—
Oil mist, mineral	8012-95-1	—	5	—
Osmium tetroxide (as Os)	20816-12-0	—	0.002	—
Oxalic acid	144-62-7	—	1	—
Oxygen difluoride	7783-41-7	0.05	0.1	—
Ozone	10028-15-6	0.1	0.2	—
Paraquat, respirable dust	4685-14-7; 1910-42-5; 2074-50-2	—	0.5	X
Parathion	56-38-2	—	0.1	-
Particulates not otherwise regulated.				
Total dust organic and inorganic		—	15	-
PCB; see Chlorodiphenyl (42% and 54% chlorine).				
Pentaborane	19624-22-7	0.005	0.01	—
Pentachloronaphthalene	1321-64-8	—	0.5	X
Pentachlorophenol	87-86-5	—	0.5	X
Pentaerythritol	115-77-5			
Total dust		—	15	—
Respirable fraction		—	5	—

Threshold Limit Values of Airborne Contaminants for Construction—Continued

Substance	CAS No.[d]	ppm[a]	mg/m³[b]	Skin Designation
Pentane	109-66-0	500	1500	—
2-Pentanone (Methyl propyl ketone)	107-87-9	200	700	—
Perchloroethylene (Tetrachloroethylene)	127-18-4	100	670	—
Perchloromethyl mercaptan	594-42-3	0.1	0.8	—
Perchloryl fluoride	7616-94-6	3	13.5	—
Perlite	93763-70-3			
Total dust		—	15	—
Respirable fraction		—	5	—
Petroleum distillates (Naphtha)(Rubber Solvent)			A[3]	—
Phenol	108-95-2	5	19	X
p-Phenylene diamine	106-50-3	—	0.1	X
Phenyl ether, vapor	101-84-8	1	7	—
Phenyl ether-biphenyl mixture, vapor		1	7	—
Phenylethylene; see Styrene.				
Phenyl glycidyl ether (PGE)	122-60-1	10	60	—
Phenylhydrazine	100-63-0	5	22	X
Phosdrin (Mevinphos)	7786-34-7	—	0.1	X
Phosgene (Carbonyl chloride)	75-44-5	0.1	0.4	—
Phosphine	7803-51-2	0.3	0.4	—
Phosphoric acid	7664-38-2	—	1	—
Phosphorus (yellow)	7723-14-0	—	0.1	—
Phosphorus pentachloride	10026-13-8	—	1	—
Phosphorus pentasulfide	1314-80-3	—	1	—
Phosphorus trichloride	7719-12-2	0.5	3	—
Phthalic anhydride	85-44-9	2	12	—
Picloram	1918-02-1			
Total dust		—	15	—
Respirable fraction		—	5	—
Picric acid	88-89-1	—	0.1	—
Piperazine dihydrochloride	142-64-3	—	—	X
Pindone (2-Pivalyl-1,3-indandione)	83-26-1	—	0.1	—
Plaster of Paris	26499-65-0			
Total dust		—	15	—
Respirable fraction		—	5	—
Platinum (as Pt)	7440-06-4			
Metal		—	—	—
Soluble salts		—	0.002	—
Polytetrafluoroethylene decomposition products			A[2]	
Portland cement	65997-15-1			
Total dust		15	—	10
Respirable fraction		5	—	—
Propargyl alcohol	107-19-7	1	—	X
beta-Propriolactone; see § 1926.1113	57-57-8			
Propionic acid	79-09-4	—	—	—
n-Propyl acetate	109-60-4	200	840	—
n-Propyl alcohol	71-23-8	200	500	—
n-Propyl nitrate	627-13-4	25	110	—
Propylene dichloride	78-87-5	75	350	—
Propylene imine	75-55-8	2	5	X
Propylene oxide	75-56-9	100	240	—
Propyne; see Methyl acetylene.				
Pyrethrum	8003-34-7	—	5	—
Pyridine	110-86-1	5	15	—
Quinone	106-51-4	0.1	0.4	—
RDX; see Cyclonite.				
Rhodium (as Rh), metal fume and insoluble compounds	7440-16-6	—	0.1	—
Rhodium (as Rh), soluble compounds	7440-16-6	—	0.001	—
Ronnel	299-84-3	—	10	—
Rotenone	83-79-4	—	5	—
Rouge		—		
Total dust		—	15	—
Respirable fraction		—	5	—
Selenium compounds (as Se)	7782-49-2	—	0.2	—
Selenium hexafluoride (as Se)	7783-79-1	0.05	0.4	—
Silica, amorphous, precipitated and gel	112926-00-8	[2]	[2]	[2]
Silica, amorphous, diatomaceous earth, containing less than 1% crystalline silica	61790-53-2	[2]	[2]	[2]
Silica, crystalline cristobalite, respirable dust	14464-46-1	[2]	[2]	[2]
Silica, crystalline quartz, respirable dust	14808-60-7	[2]	[2]	[2]
Silica, crystalline tripoli (as quartz), respirable dust	1317-95-9	[2]	[2]	[2]
Silica, crystalline tridymite, respirable dust	15468-32-3	[2]	[2]	[2]

Threshold Limit Values of Airborne Contaminants for Construction—Continued

Substance	CAS No.[d]	ppm[a]	mg/m[3][b]	Skin Designation
Silica, fused, respirable dust	60676–86–0	[2]	[2]	[2]
Silicates (less than 1% crystalline silica).				
Mica (respirable dust)	12001–26–2	[2]	[2]	[2]
Soapstone, total dust	—	[2]	[2]	[2]
Soapstone, respirable dust	—	[2]	[2]	[2]
Talc (containing asbestos)	—	[3]	[3]	[3]
Talc (containing no asbestos), respirable dust	14807–96–6	[2]	[2]	[2]
Tremolite		[1]	[1]	[1]
Silicon	7440–21–3			
Total dust		—	15	—
Respirable fraction		—	5	—
Silicon carbide	409–21–2			
Total dust		—	15	—
Respirable fraction		—	5	—
Silver, metal and soluble compounds (as Ag)	7440–22–4	—	0.01	—
Soapstone; see Silicates.				
Sodium fluoroacetate	62–74–8	—	0.05	X
Sodium hydroxide	1310–73–2	—	2	—
Starch	9005–25–8			
Total dust		—	15	—
Respirable fraction		—	5	—
Stibine	7803–52–3	0.1	0.5	—
Stoddard solvent	8052–41–3	200	1150	—
Strychnine	57–24–9	—	0.15	—
Styrene	100–42–5	100	420	50
Sucrose	57–50–1			
Total dust		—	15	—
Respirable fraction		—	5	—
Sulfur dioxide	7446–09–5	5	13	—
Sulfur hexafluoride	2551–62–4	1000	6000	—
Sulfuric acid	7664–93–9	—	1	—
Sulfur monochloride	10025–67–9	1	6	—
Sulfur pentafluoride	5714–22–7	0.025	0.25	—
Sulfuryl fluoride	2699–79–8	5	20	—
Systox, see Demeton.				
2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	93–76–5	—	10	—
Talc; see Silicates—.				
Tantalum, metal and oxide dust	7440–25–7	—	5	—
TEDP (Sulfotep)	3689–24–5	—	0.2	X
Teflon decomposition products			A2	
Tellurium and compounds (as Te)	13494–80–9	—	0.1	—
Tellurium hexafluoride (as Te)	7783–80–4	0.02	0.2	—
Temephos	3383–96–8			
Total dust		—	15	—
Respirable fraction		—	5	—
TEPP (Tetraethyl pyrophosphate)	107–49–3	—	0.05	X
Terphenyls	26140–60–3	(C)1	(C)9	—
1,1,1,2-Tetrachloro-2,2-difluoroethane	76–11–9	500	4170	—
1,1,2,2-Tetrachloro-1,2-difluoroethane	76–12–0	500	4170	—
1,1,2,2-Tetrachloroethane	79–34–5	5	35	X
Tetrachloroethylene; see Perchloroethylene.				
Tetrachloromethane; see Carbon tetrachloride.				
Tetrachloronaphthalene	1335–88–2	—	2	X
Tetraethyl lead (as Pb)	78–00–2	—	0.1	X
Tetrahydrofuran	109–99–9	200	590	—
Tetramethyl lead, (as Pb)	75–74–1	—	0.15	X
Tetramethyl succinonitrile	3333–52–6	0.5	3	X
Tetranitromethane	509–14–8	1	8	—
Tetryl (2,4,6-Trinitrophenylmethylnitramine)	479–45–8	—	1.5	X
Thallium, soluble compounds (as Tl)	7440–28–0	—	0.1	X
4,4'-Thiobis (6-tert, Butyl-m-cresol)	96–69–5			
Total dust		—	15	—
Respirable fraction		—	5	—
Thiram	137–26–8	—	5	—
Tin, inorganic compounds (except oxides) (as Sn)	7440–31–5	—	2	—
Tin, organic compounds (as Sn)	7440–31–5	—	0.1	—
Tin oxide (as Sn)	21651–19–4	—	—	—
Total dust		—	15	—
Respirable fraction		—	5	—
Titanium dioxide	13463–67–7			
Total dust		—	15	—

Threshold Limit Values of Airborne Contaminants for Construction—Continued

Substance	CAS No.[d]	ppm[a]	mg/m³[b]	Skin Designation
Toluene	108–88–3	200	750	100
Toluene-2,4-diisocyanate (TDI)	584–84–9	(C)0.02	(C)0.14	—
o-Toluidine	95–53–4	5	22	X
Toxaphene; see Chlorinated camphene.				
Tremolite; see Silicates.				
Tributyl phosphate	126–73–8	—	5	—
1,1,1-Trichloroethane; see Methyl chloroform.				
1,1,2-Trichloroethane	79–00–5	10	45	X
Trichloroethylene	79–01–6	100	535	—
Trichloromethane; see Chloroform.				
Trichloronaphthalene	1321–65–9	—	5	X
1,2,3-Trichloropropane	96–18–4	50	300	—
1,1,2-Trichloro-1,2,2-trifluoroethane	76–13–1	1000	7600	—
Triethylamine	121–44–8	25	100	—
Trifluorobromomethane	75–63–8	1000	6100	—
Trimethyl benzene	25551–13–7	25	120	—
2,4,6-Trinitrophenyl; see Picric acid.				
2,4,6-Trinitrophenylmethylnitramine; see Tetryl.				
2,4,6-Trinitrotoluene (TNT)	118–96–7	—	1.5	X
Triorthocresyl phosphate	78–30–8	—	0.1	—
Triphenyl phosphate	115–86–6	—	3	—
Tungsten (as W)	7440–33–7			
Insoluble compounds		—	5	—
Soluble compounds		—	1	—
Turpentine	8006–64–2	100	560	—
Uranium (as U)	7440–61–1			
Soluble compounds		—	0.2	—
Insoluble compounds		—	0.2	—
Vanadium	1314–62–1			
Respirable dust (as V_2O_5)		—	(C)0.5	—
Fume (as V_2O_5)		—	(C)0.1	—
Vegetable oil mist				
Total dust		—	15	—
Respirable fraction		—	5	—
Vinyl benzene; see Styrene.				
Vinyl chloride; see § 1926.1117	75–01–4			
Vinyl cyanide; see Acrylonitrile.				
Vinyl toluene	25013–15–4	100	480	—
Warfarin	81–81–2	—	0.1	—
Xylenes (o-, m-, p-isomers)	1330–20–7	100	435	—
Xylidine	1300–73–8	5	25	X
Yttrium	7440–65–5	—	1	—
Zinc chloride fume	7646–85–7	—	1	—
Zinc oxide fume	1314–13–2	—	5	—
Zinc oxide	1314–13–2			
Total dust		—	15	—
Respirable fraction		—	5	—
Zinc stearate	557–05–1			
Total dust		—	15	—
Respirable fraction		—	5	—
Zirconium compounds (as Zr)	7440–67–7	—	5	

MINERAL DUSTS

Substance	mppcf[j]
SILICA:	
Crystalline	
Quartz. Threshold Limit calculated from the formula	250[k] / %SiO_2+5
Cristobalite.	
Amorphous, including natural diatomaceous earth	20
SILICATES (less than 1% crystalline silica)	
Mica	20
Portland cement	50

MINERAL DUSTS—Continued

Substance	mppcf[j]
Soapstone	20
Talc (non-asbestiform)	20
Talc (fibrous), use asbestos limit	--
Graphite (natural)	15

MINERAL DUSTS—Continued

Substance	mppcf[j]
Inert or Nuisance Particulates:[m]	50 (or 15 mg/m³ whichever is the smaller) of total dust <1% SiO_2

Conversion factors.
mppcf × 35.3 = million particles per cubic meter = particles per c.c.

Footnotes
[1] [Reserved]
[2] See Mineral Dusts Table.
[3] Use Asbestos Limit § 1926.58.
[4] See 1926.58.
* The PELs are 8-hour TWAs unless otherwise noted; a (C) designation denotes a ceiling limit.
** As determined from breathing-zone air samples.
[a] Parts of vapor or gas per million parts of contaminated air by volume at 25°C and 760 torr.
[b] Milligrams of substance per cubic meter of air. When entry is in this column only, the value is exact; when listed with a ppm entry, it is approximate.
[c] [Reserved]
[d] The CAS number is for information only. Enforcement is based on the substance name. For an entry covering more than one metal compound, measured as the metal, the CAS number for the metal is given--not CAS numbers for the individual compounds.
[e-f] [Reserved]
[g] For sectors excluded from § 1926.1128 the limit is 10 ppm TWA.
[h] Where OSHA has published a proposal for a substance but has not issued a final rule, the proposal is referenced and the existing limit is published.
[i] [Reserved]
[j] Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques.
[k] The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.
[l] [Reserved]
[m] Covers all organic and inorganic particulates not otherwise regulated. Same as Particulates Not Otherwise Regulated.
The 1970 TLV uses letter designations instead of a numerical value as follows:
A[1] [Reserved]
A[2] Polytetrafluoroethylene decomposition products. Because these products decompose in part by hydrolysis in alkaline solution, they can be quantitatively determined in air as fluoride to provide an index of exposure. No TLV is recommended pending determination of the toxicity of the products, but air concentrations should be minimal.
A[3] Gasoline and/or Petroleum Distillates. The composition of these materials varies greatly and thus a single TLV for all types of these materials is no longer applicable. The content of benzene, other aromatics and additives should be determined to arrive at the appropriate TLV.
E Simple asphyxiants. The limiting factor is the available oxygen which shall be at least 19.5% and be within the requirements addressing explosion in part 1926.

10. In § 1926.57, new paragraphs (f)—(i) are added to read as follows:

1926.57 Ventilation.

* * * * *

(f) *Abrasive blasting*—(1) *Definitions applicable to this paragraph*—

(i) *Abrasive.* A solid substance used in an abrasive blasting operation.

(ii) *Abrasive-blasting respirator.* A continuous flow air-line respirator constructed so that it will cover the wearer's head, neck, and shoulders to protect him from rebounding abrasive.

(iii) *Blast cleaning barrel.* A complete enclosure which rotates on an axis, or which has an internal moving tread to tumble the parts, in order to expose various surfaces of the parts to the action of an automatic blast spray.

(iv) *Blast cleaning room.* A complete enclosure in which blasting operations are performed and where the operator works inside of the room to operate the blasting nozzle and direct the flow of the abrasive material.

(v) *Blasting cabinet.* An enclosure where the operator stands outside and operates the blasting nozzle through an opening or openings in the enclosure.

(vi) *Clean air.* Air of such purity that it will not cause harm or discomfort to an individual if it is inhaled for extended periods of time.

(vii) *Dust collector.* A device or combination of devices for separating dust from the air handled by an exhaust ventilation system.

(viii) *Exhaust ventilation system.* A system for removing contaminated air from a space, comprising two or more of the following elements (A) enclosure or hood, (B) duct work, (C) dust collecting equipment, (D) exhauster, and (E) discharge stack.

(ix) *Particulate-filter respirator.* An air purifying respirator, commonly referred to as a dust or a fume respirator, which removes most of the dust or fume from the air passing through the device.

(x) *Respirable dust.* Airborne dust in sizes capable of passing through the upper respiratory system to reach the lower lung passages.

(xi) *Rotary blast cleaning table.* An enclosure where the pieces to be cleaned are positioned on a rotating table and are passed automatically through a series of blast sprays.

(xii) *Abrasive blasting.* The forcible application of an abrasive to a surface by pneumatic pressure, hydraulic pressure, or centrifugal force.

(2) *Dust hazards from abrasive blasting.* (i) Abrasives and the surface coatings on the materials blasted are shattered and pulverized during blasting operations and the dust formed will contain particles of respirable size. The composition and toxicity of the dust from these sources shall be considered in making an evaluation of the potential health hazards.

(ii) The concentration of respirable dust or fume in the breathing zone of the abrasive-blasting operator or any other worker shall be kept below the levels specified in § 1926.55 or other pertinent sections of this part.

(iii) Organic abrasives which are combustible shall be used only in automatic systems. Where flammable or explosive dust mixtures may be present, the construction of the equipment, including the exhaust system and all electric wiring, shall conform to the requirements of American National Standard Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, Z33.1–1961 (NFPA 91–1961), and Suubpart S of this part. The blast nozzle shall be bonded and grounded to prevent the build up of static charges. Where flammable or explosive dust mixtures may be present, the abrasive blasting enclosure, the ducts, and the dust collector shall be constructed with loose panels or explosion venting areas, located on sides away from any occupied area, to provide for pressure relief in case of explosion, following the principles set forth in the National Fire Protection Association Explosion Venting Guide. NFPA 68–1954.

(3) *Blast-cleaning enclosures.* (i) Blast-cleaning enclosures shall be exhaust ventilated in such a way that a continuous inward flow of air will be maintained at all openings in the enclosure during the blasting operation.

(A) All air inlets and access openings shall be baffled or so arranged that by the combination of inward air flow and baffling the escape of abrasive or dust particules into an adjacent work area will be minimized and visible spurts of dust will not be observed.

(B) The rate of exhaust shall be sufficient to provide prompt clearance of the dust-laden air within the enclosure after the cessation of blasting.

(C) Before the enclosure is opened, the blast shall be turned off and the exhaust system shall be run for a sufficient period of time to remove the dusty air within the enclosure.

(D) Safety glass protected by screening shall be used in observation windows, where hard deep-cutting abrasives are used.

(E) Slit abrasive-resistant baffles shall be installed in multiple sets at all small access openings where dust might escape, and shall be inspected regularly and replaced when needed.

(*1*) Doors shall be flanged and tight when closed.

(*2*) Doors on blast-cleaning rooms shall be operable from both inside and outside, except that where there is a small operator access door, the large work access door may be closed or opened from the outside only.

(4) *Exhaust ventilation systems.* (i) The construction, installation, inspection, and maintenance of exhaust systems shall conform to the principles and requirements set forth in American National Standard Fundamentals

Governing the Design and Operation of Local Exhaust Systems, Z9.2–1960, and ANSI Z33.1–1961.

(*a*) When dust leaks are noted, repairs shall be made as soon as possible.

(*b*) The static pressure drop at the exhaust ducts leading from the equipment shall be checked when the installation is completed and periodically thereafter to assure continued satisfactory operation. Whenever an appreciable change in the pressure drop indicates a partial blockage, the system shall be cleaned and returned to normal operating condition.

(ii) In installations where the abrasive is recirculated, the exhaust ventilation system for the blasting enclosure shall not be relied upon for the removal of fines from the spent abrasive instead of an abrasive separator. An abrasive separator shall be provided for the purpose.

(iii) The air exhausted from blast-cleaning equipment shall be discharged through dust collecting equipment. Dust collectors shall be set up so that the accumulated dust can be emptied and removed without contaminating other working areas.

(5) *Personal protective equipment.* (i) Only respiratory protective equipment approved by the Bureau of Mines, U.S. Department of the Interior (see 30 CFR part 11) shall be used for protection of personnel against dusts produced during abrasive-blasting operations.

(ii) Abrasive-blasting respirators shall be worn by all abrasive-blasting operators:

(A) When working inside of blast-cleaning rooms, or

(B) When using silica sand in manual blasting operations where the nozzle and blast are not physically separated from the operator in an exhaust ventilated enclosure, or

(C) Where concentrations of toxic dust dispersed by the abrasive blasting may exceed the limits set in § 1926.55 or other pertinent sections of this part and the nozzle and blast are not physically separated from the operator in an exhaust-ventilated enclosure.

(iii) Particulate filter respirators, commonly referred to as dust-filter respirators, properly fitted, may be used for short, intermittent, or occasional dust exposures such as cleanup, dumping of dust collectors, or unloading shipments of sand at a receiving point, when it is not feasible to control the dust by enclosure, exhaust ventilation, or other means. Respirators used shall be approved (see 30 CFR part 11) for protection against the specific type of dust encountered.

(A) Dust-filter respirators may be used to protect the operator of outside abrasive-blasting operations where nonsilica abrasives are used on materials having low toxicities.

(B) Dust-filter respirators shall not be used for continuous protection where silica sand is used as the blasting abrasive, or toxic materials are blasted.

(iv) A respiratory protection program as defined and described in § 1926.103, shall be established wherever it is necessary to use respiratory protective equipment.

(v) Operators shall be equipped with heavy canvas or leather gloves and aprons or equivalent protection to protect them from the impact of abrasives. Safety shoes shall be worn to protect against foot injury where heavy pieces of work are handled.

(A) Safety shoes shall conform to the requirements of American National Standard for Men's Safety-Toe Footwear, Z41.1–1967.

(B) Equipment for protection of the eyes and face shall be supplied to the operator when the respirator design does not provide such protection and to any other personnel working in the vicinity of abrasive blasting operations. This equipment shall conform to the requirements of § 1926.102.

(6) Air supply and air compressors. The air for abrasive-blasting respirators shall be free of harmful quantities of dusts, mists, or noxious gases, and shall meet the requirements for air purity set forth in ANSI Z9.2–1960. The air from the regular compressed air line of the plant may be used for the abrasive-blasting respirator if:

(i) A trap and carbon filter are installed and regularly maintained, to remove oil, water, scale,and odor,

(ii) A pressure reducing diaphragm or valve is installed to reduce the pressure down to requirements of the particular type of abrasive-blasting respirator, and

(iii) An automatic control is provided to either sound an alarm or shut down the compressor in case of overheating.

(7) *Operational procedures and general safety.* Dust shall not be permitted to accumulate on the floor or on ledges outside of an abrasive-blasting enclosure, and dust spills shall be cleaned up promptly. Aisles and walkways shall be kept clear of steel shot or similar abrasive which may create a slipping hazard.

(8) *Scope.* (a) This paragraph applies to all operations where an abrasive is forcibly applied to a surface by pneumatic or hydraulic pressure, or by centrifugal force. It does not apply to steam blasting, or steam cleaning, or hydraulic cleaning methods where work is done without the aid of abrasives.

(g) *Grinding, polishing, and buffing operations*—(1) Definitions applicable to this paragraph—

(i) *Abrasive cutting-off wheels.* Organic-bonded wheels, the thickness of which is not more than one forty-eighth of their diameter for those up to, and including, 20 inches (50.8 cm) in diameter, and not more than one-sixtieth of their diameter for those larger than 20 inches (50.8 cm) in diameter, used for a multitude of operations variously known as cutting, cutting off, grooving, slotting, coping, and jointing, and the like. The wheels may be "solid" consisting of organic-bonded abrasive material throughout, "steel centered" consisting of a steel disc with a rim of organic-bonded material moulded around the periphery, or of the "inserted tooth" type consisting of a steel disc with organic-bonded abrasive teeth or inserts mechanically secured around the periphery.

(ii) *Belts.* All power-driven, flexible, coated bands used for grinding, polishing, or buffing purposes.

(iii) *Branch pipe.* The part of an exhaust system piping that is connected directly to the hood or enclosure.

(iv) *Cradle.* A movable fixture, upon which the part to be ground or polished is placed.

(v) *Disc wheels.* All power-driven rotatable discs faced with abrasive materials, artificial or natural, and used for grinding or polishing on the side of the assembled disc.

(vi) *Entry loss.* The loss in static pressure caused by air flowing into a duct or hood. It is usually expressed in inches of water gauge.

(vii) *Exhaust system.* A system consisting of branch pipes connected to hoods or enclosures, one or more header pipes, an exhaust fan, means for separating solid contaminants from the air flowing in the system, and a discharge stack to outside.

(viii) *Grinding wheels.* All power-driven rotatable grinding or abrasive wheels, except disc wheels as defined in this standard, consisting of abrasive particles held together by artificial or natural bonds and used for peripheral grinding.

(ix) *Header pipe (main pipe).* A pipe into which one or more branch pipes enter and which connects such branch pipes to the remainder of the exhaust system.

(x) *Hoods and enclosures.* The partial or complete enclosure around the wheel or disc through which air enters an exhaust system during operation.

(xi) *Horizontal double-spindle disc grinder.* A grinding machine carrying two power-driven, rotatable, coaxial, horizontal spindles upon the inside

ends of which are mounted abrasive disc wheels used for grinding two surfaces simultaneously.

(xii) Horizontal single-spindle disc grinder. A grinding machine carrying an abrasive disc wheel upon one or both ends of a power-driven, rotatable single horizontal spindle.

(xiii) *Polishing and buffing wheels.* All power-driven rotatable wheels composed all or in part of textile fabrics, wood, felt, leather, paper, and may be coated with abrasives on the periphery of the wheel for purposes of polishing, buffing, and light grinding.

(xiv) *Portable grinder.* Any power-driven rotatable grinding, polishing, or buffing wheel mounted in such manner that it may be manually manipulated.

(xv) *Scratch brush wheels.* All power-driven rotatable wheels made from wire or bristles, and used for scratch cleaning and brushing purposes.

(xvi) *Swing-frame grinder.* Any power-driven rotatable grinding, polishing, or buffing wheel mounted in such a manner that the wheel with its supporting framework can be manipulated over stationary objects.

(xvii) *Velocity pressure (vp).* The kinetic pressure in the direction of flow necessary to cause a fluid at rest to flow at a given velocity. It is usually expressed in inches of water gauge.

(xviii) *Vertical spindle disc grinder.* A grinding machine having a vertical, rotatable power-driven spindle carrying a horizontal abrasive disc wheel.

(2) *Application.* Wherever dry grinding, dry polishing or buffing is performed, and employee exposure, without regard to the use of respirators, exceeds the permissible exposure limits prescribed in § 1926.55 or other pertinent sections of this part, a local exhaust ventilation system shall be provided and used to maintain employee exposures within the prescribed limits.

(3) *Hood and branch pipe requirements.* (i) Hoods connected to exhaust systems shall be used, and such hoods shall be designed, located, and placed so that the dust or dirt particles shall fall or be projected into the hoods in the direction of the air flow. No wheels, discs, straps, or belts shall be operated in such manner and in such direction as to cause the dust and dirt particles to be thrown into the operator's breathing zone.

(ii) Grinding wheels on floor stands, pedestals, benches, and special-purpose grinding machines and abrasive cutting-off wheels shall have not less than the minimum exhaust volumes shown in Table D–57.1 with a recommended minimum duct velocity of 4,500 feet per minute in the branch and 3,500 feet per minute in the main. The entry losses from all hoods except the vertical-spindle disc grinder hood, shall equal 0.65 velocity pressure for a straight takeoff and 0.45 velocity pressure for a tapered takeoff. The entry loss for the vertical-spindle disc grinder hood is shown in figure D–57.1 (following paragraph (g) of this section).

TABLE D–57.1—GRINDING AND ABRASIVE CUTTING-OFF WHEELS

Wheel diameter, inches (cm)	Wheel width, inches (cm)	Minimum exhaust volume (feet^3/min.)
To 9 (22.86)	1½ (3.81)	220
Over 9 to 16 (22.86 to 40.64)	2 (5.08)	390
Over 16 to 19 (40.64 to 48.26)	3 (7.62)	500
Over 19 to 24 (48.26 to 60.96)	4 (10.16)	610
Over 24 to 30 (60.96 to 76.2) ..	5 (12.7)	880
Over 30 to 36 (76.2 to 91.44) ..	6 (15.24)	1,200

For any wheel wider than wheel diameters shown in Table D–57.1, increase the exhaust volume by the ratio of the new width to the width shown.

Example:

If wheel width=4½ inches (11.43 cm), then 4.5÷4×610=686 (rounded to 690).

(iii) Scratch-brush wheels and all buffing and polishing wheels mounted on floor stands, pedestals, benches, or special-purpose machines shall have not less than the minimum exhaust volume shown in Table D–57.2.

TABLE D–57.2—BUFFING AND POLISHING WHEELS

Wheel diameter, inches (cm)	Wheel width, inches cm)	Minimum exhaust volume (feet^3/min.)
To 9 (22.86)	2 (5.08)	300
Over 9 to 16 (22.86 to 40.64)	3 (7.62)	500
Over 16 to 19 (40.64 to 48.26)	4 (10.16)	610
Over 19 to 24 (48.26 to 60.96)	5 (12.7)	740

TABLE D–57.2—BUFFING AND POLISHING WHEELS—Continued

Wheel diameter, inches (cm)	Wheel width, inches cm)	Minimum exhaust volume (feet^3/min.)
Over 24 to 30 (60.96 to 76.2) ..	6 (15.24)	1,040
Over 30 to 36 (76.2 to 91.44) ..	6 (15.24)	1,200

(iv) Grinding wheels or discs for horizontal single-spindle disc grinders shall be hooded to collect the dust or dirt generated by the grinding operation and the hoods shall be connected to branch pipes having exhaust volumes as shown in Table D–57.3.

TABLE D–57.3—HORIZONTAL SINGLE-SPINDLE DISC GRINDER

Disc diameter, inches (cm)	Exhaust volume (ft.^{3}/min.)
Up to 12 (30.48)	220
Over 12 to 19 (30.48 to 48.26) ..	390
Over 19 to 30 (48.26 to 76.2)	610
Over 30 to 36 (76.2 to 91.44)	880

(v) Grinding wheels or discs for horizontal double-spindle disc grinders shall have a hood enclosing the grinding chamber and the hood shall be connected to one or more branch pipes having exhaust volumes as shown in Table D–57.4.

TABLE D–57.4—HORIZONTAL DOUBLE-SPINDLE DISC GRINDER

Disc diameter, inches (cm)	Exhaust volume (ft.^{3}/min.)
Up to 19 (48.26)	610
Over 19 to 25 (48.26 to 63.5)	880
Over 25 to 30 (63.5 to 76.2)	1,200
Over 30 to 53 (76.2 to 134.62) ..	1,770
Over 53 to 72 (134.62 to 182.88)	6,280

(vi) Grinding wheels or discs for vertical single-spindle disc grinders shall be encircled with hoods to remove the dust generated in the operation. The hoods shall be connected to one or more branch pipes having exhaust volumes as shown in Table D–57.5.

TABLE D–57.5—VERTICAL SPINDLE DISC GRINDER

Disc diameter, inches (cm)	One-half or more of disc covered		Disc not covered	
	Number [1]	Exhaust foot [3]/min.	Number [1]	Exhaust foot [3]/min.
Up to 20 (50.8)	1	500	2	760
Over 20 to 30 (50.8 to 76.2)	2	780	2	1,480
Over 30 to 53 (76.2 to 134.62)	2	1,770	4	3,530
Over 53 to 72 (134.62 to 182.88)	2	3,140	5	6,010

[1] Number of exhaust outlets around periphery of hood, or equal distribution provided by other means.

(vii) Grinding and polishing belts shall be provided with hoods to remove dust and dirt generated in the operations and the hoods shall be connected to branch pipes having exhaust volumes as shown in Table D–57.6.

TABLE D–57.6—GRINDING AND POLISHING BELTS

Belts width, inches (cm)	Exhaust volume (ft. [3]/min.)
Up to 3 (7.62)	220
Over 3 to 5 (7.62 to 12.7)	300
Over 5 to 7 (12.7 to 17.78)	390
Over 7 to 9 (17.78 to 22.86)	500
Over 9 to 11 (22.86 to 27.94)	610
Over 11 to 13 (27.94 to 33.02)	740

(viii) Cradles and swing-frame grinders. Where cradles are used for handling the parts to be ground, polished, or buffed, requiring large partial enclosures to house the complete operation, a minimum average air velocity of 150 feet per minute shall be maintained over the entire opening of the enclosure. Swing-frame grinders shall also be exhausted in the same manner as provided for cradles. (See fig. D–57.3)

(ix) Where the work is outside the hood, air volumes must be increased as shown in American Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, Z9.2–1960 (section 4, exhaust hoods).

(4) *Exhaust systems.* (i) Exhaust systems for grinding, polishing, and buffing operations should be designed in accordance with American Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, Z9.2–1960.

(ii) Exhaust systems for grinding, polishing, and buffing operations shall be tested in the manner described in American Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, Z9.2–1960.

(iii) All exhaust systems shall be provided with suitable dust collectors.

(5) *Hood and enclosure design.* (i) (A) It is the dual function of grinding and abrasive cutting-off wheel hoods to protect the operator from the hazards of bursting wheels as well as to provide a means for the removal of dust and dirt generated. All hoods shall be not less in structural strength than specified in the American National Standard Safety Code for the Use, Care, and Protection of Abrasive Wheels, B7.1–1970.

(B) Due to the variety of work and types of grinding machines employed, it is necessary to develop hoods adaptable to the particular machine in question, and such hoods shall be located as close as possible to the operation.

(ii) Exhaust hoods for floor stands, pedestals, and bench grinders shall be designed in accordance with figure D–57.2. The adjustable tongue shown in the figure shall be kept in working order and shall be adjusted within one-fourth inch (0.635 cm) of the wheel periphery at all times.

(iii) Swing-frame grinders shall be provided with exhaust booths as indicated in figure D–57.3.

(iv) Portable grinding operations, whenever the nature of the work permits, shall be conducted within a partial enclosure. The opening in the enclosure shall be no larger than is actually required in the operation and an average face air velocity of not less than 200 feet per minute shall be maintained.

(v) Hoods for polishing and buffing and scratch-brush wheels shall be constructed to conform as closely to figure D–57.4 as the nature of the work will permit.

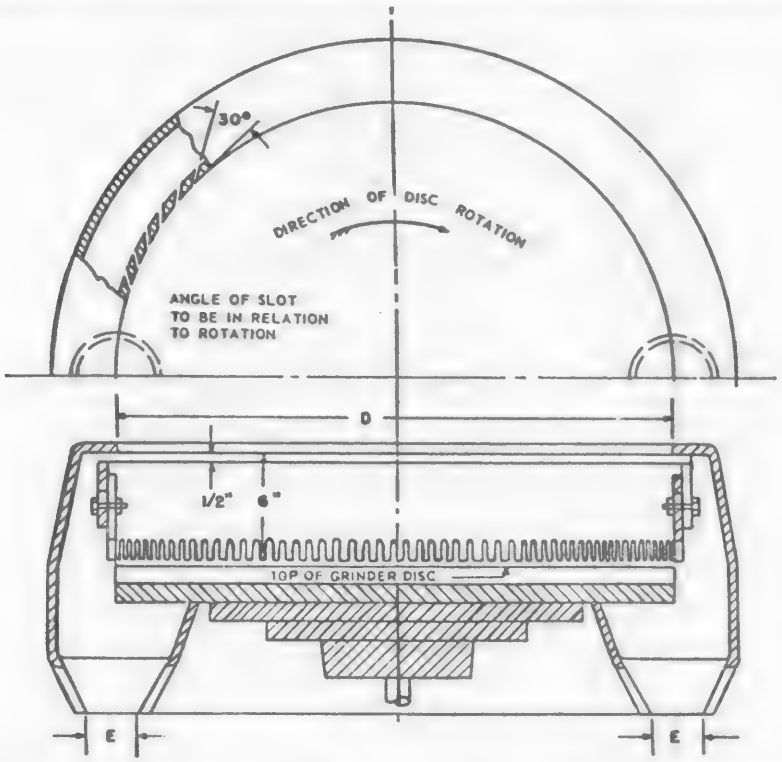
(vi) Cradle grinding and polishing operations shall be performed within a partial enclosure similar to figure D–57.5. The operator shall be positioned outside the working face of the opening of the enclosure. The face opening of the enclosure should not be any greater in area than that actually required for the performance of the operation and the average air velocity into the working face of the enclosure shall not be less than 150 feet per minute.

(vii) Hoods for horizontal single-spindle disc grinders shall be constructed to conform as closely as possible to the hood shown in figure D–57.1. It is essential that there be a space between the back of the wheel and the hood, and a space around the periphery of the wheel of at least 1 inch (2.54 cm) in order to permit the suction to act around the wheel periphery. The opening on the side of the disc shall be no larger than is required for the grinding operation, but must never be less than twice the area of the branch outlet.

(viii) Horizontal double-spindle disc grinders shall have a hood encircling the wheels and grinding chamber similar to that illustrated in figure D–57.2. The openings for passing the work into the grinding chamber should be kept as small as possible, but must never be less than twice the area of the branch outlets.

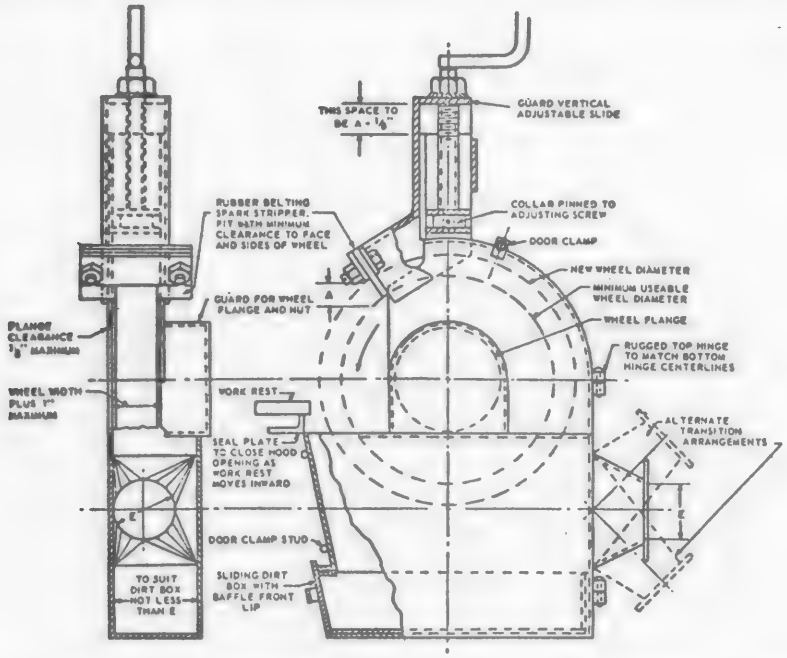
(ix) Vertical-spindle disc grinders shall be encircled with a hood so constructed that the heavy dust is drawn off a surface of the disc and the lighter dust exhausted through a continuous slot at the top of the hood as shown in figure D–57.1.

(x) Grinding and polishing belt hoods shall be constructed as close to the operation as possible. The hood should extend almost to the belt, and 1-inch (2.54 cm) wide openings should be provided on either side. Figure D–57.3 shows a typical hood for a belt operation.



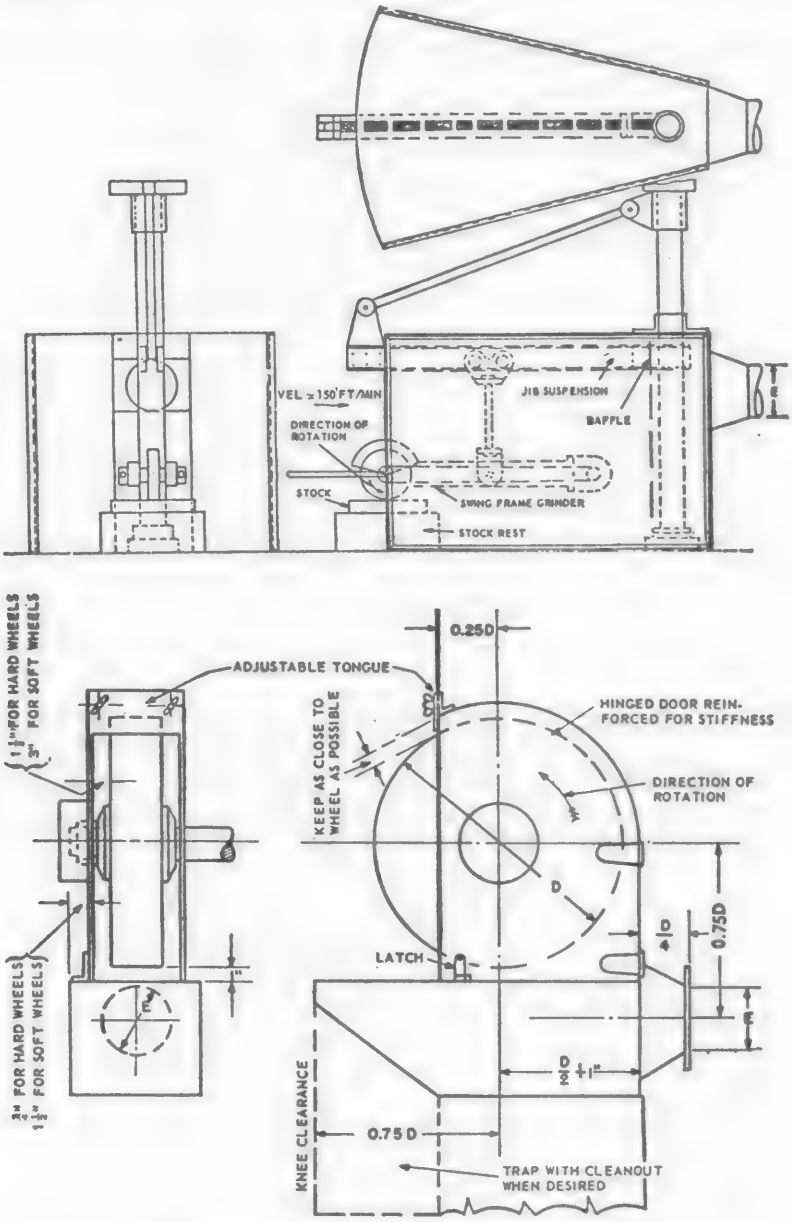
Dia. *D* Inches (cm)		Exhaust *E*		Volume Exhausted at 4,500 ft/min ft³/min	Note
Min.	Max.	No Pipes	Dia.		
.....	20 (50.8)	1	4¼ (10.795)	500	When one-half or more of the disc can be hooded, use exhaust ducts as shown at the left.
Over 20 (50.8)	30 (76.2)	2	4 (10.16)	780	
Over 30 (76.2)	72 (182.88)	2	6 (15.24)	1,770	
Over 53 (134.62)	72 (182.88)	2	8 (20.32)	3,140	
.....	20 (50.8)	2	4 (10.16)	780	When no hood can be used over disc, use exhaust ducts as shown at left.
Over 20 (50.8)	20 (50.8)	2	4 (10.16)	780	
Over 30 (76.2)	30 (76.2)	2	5½ (13.97)	1,480	
Over 53 (134.62)	53 (134.62)	4	6 (15.24)	3,530	
	72 (182.88)	5	7 (17.78)	6,010	

Entry loss=1.0 slot velocity pressure + 0.5 branch velocity pressure.
Minimum slot velocity=2,000 ft/min—½-inch (1.27 cm) slot width.


THIS SPACE TO BE A - 1/8"
GUARD VERTICAL ADJUSTABLE SLIDE
RUBBER BELTING SPARK STRIPPER. FIT WITH MINIMUM CLEARANCE TO FACE AND SIDES OF WHEEL
COLLAR PINNED TO ADJUSTING SCREW
DOOR CLAMP
NEW WHEEL DIAMETER
MINIMUM USEABLE WHEEL DIAMETER
WHEEL FLANGE
GUARD FOR WHEEL FLANGE AND NUT
A
FLANGE CLEARANCE 1/8" MAXIMUM
RUGGED TOP HINGE TO MATCH BOTTOM HINGE CENTERLINES
WHEEL WIDTH PLUS 1" MAXIMUM
WORK REST
ALTERNATE TRANSITION ARRANGEMENTS
SEAL PLATE TO CLOSE HOOD OPENING AS WORK REST MOVES INWARD
E
DOOR CLAMP STUD
TO SUIT DIRT BOX NOT LESS THAN E
SLIDING DIRT BOX WITH BAFFLE FRONT LIP

Wheel dimension, inches (centimeters)			Exhaust outlet, inches (centimeters) *E*	Volume of air at 4,500 ft/min
Diameter		Width, Max		
Min= *d*	Max= *D*			
	9 (22.86)	1½ (3.81)	3	220
Over 9 (22.86)	16 (40.64)	2 (5.08)	4	390
Over 16 (40.64)	19 (48.26)	3 (7.62)	4½	500
Over 19 (48.26)	24 (60.96)	4 (10.16)	5	610
Over 24 (60.96)	30 (76.2)	5 (12.7)	6	880
Over 30 (76.2)	36 (91.44)	6 (15.24)	7	1,200

Entry loss = 0.45 velocity pressure for tapered takeoff 0.65 velocity pressure for straight takeoff.



STANDARD BUFFING AND POLISHING HOOD

Wheel dimension, inches (centimeters)			Exhaust outlet, inches *E*	Volume of air at 4,500 ft/min
Diameter		Width, Max		
Min= *d*	Max= *D*			
	9 (22.86)	2 (5.08)	3½ (3.81)	500
Over 9 (22.86)	16 (40.64)	3 (5.08)	4	500
Over 16 (40.64)	19 (48.26)	4 (11.43)	5	610
Over 19 (48.26)	24 (60.96)	5 (12.7)	5½	740
Over 24 (60.96)	30 (76.2)	6 (15.24)	6½	1.040
Over 30 (76.2)	36 (91.44)	6 (15.24)	7	1.200

Entry loss = 0.15 velocity pressure for tapered takeoff; 0.65 velocity pressure for straight takeoff.

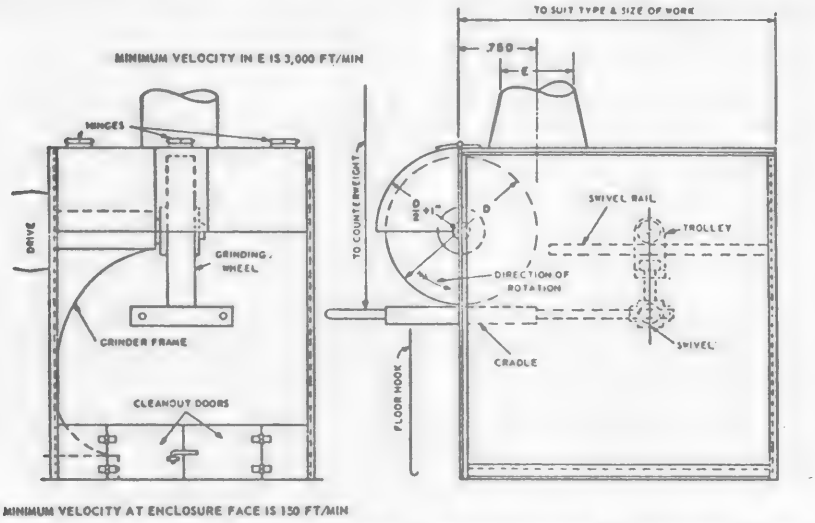
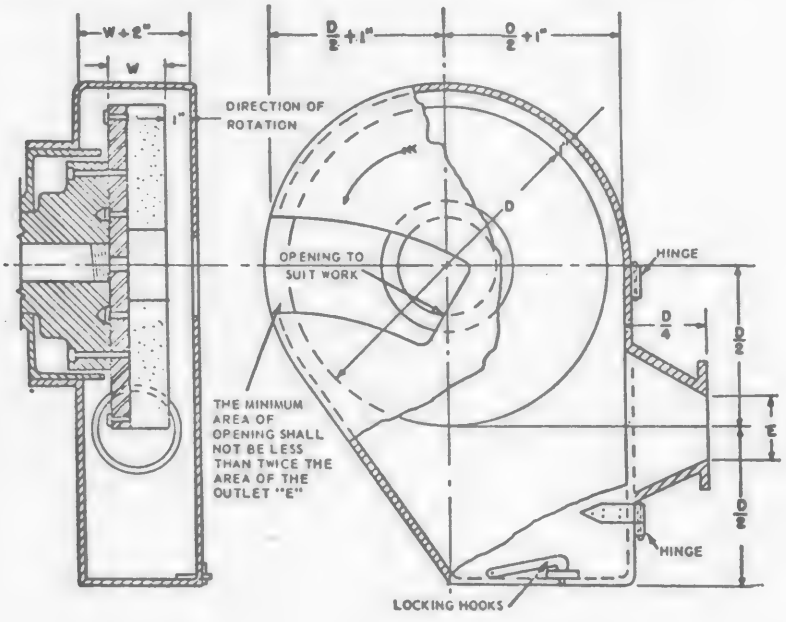


TABLE D–57.12—MAXIMUM ALLOWABLE SIZE OF CONTAINERS AND PORTABLE TANKS

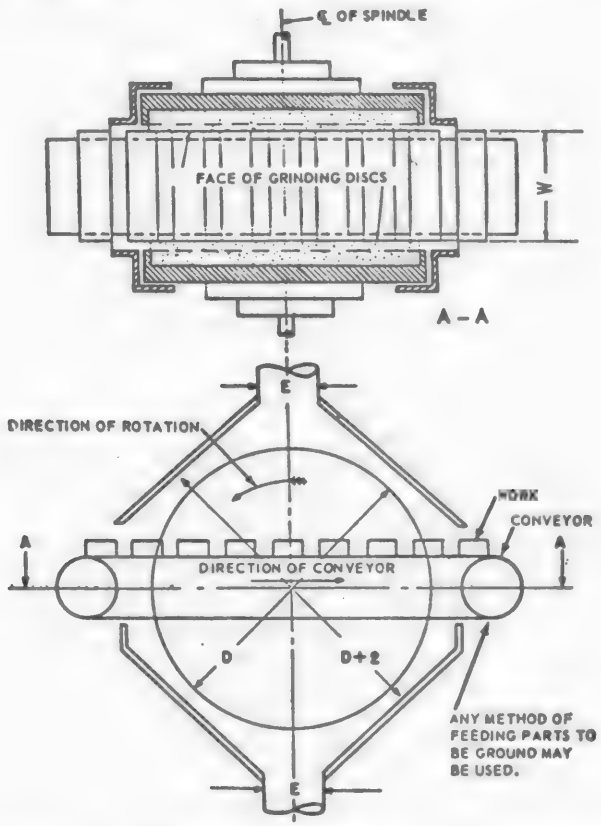
Container type	Flammable liquids			Combustible liquids	
	Class IA	Class IB	Class IC	Class II	Class III
Glass or approved plastic .	1 pt (0.473 L)	1 qt (1.1 L)	1 gal (3.785 L)	1 gal (3.785 L)	1 gal (3.785 L).
Metal (other than DOT drums)	1 gal (3.785 L)	5 gal (18.925 L)	5 gal (18.925 L)	5 gal (18.925 L)	5 gal (18.925 L).
Safety cans	2 gal (7.57 L)	5 gal (18.925 L)	5 gal (18.925 L)	5 gal (18.925 L)	5 gal (18.925 L).
Metal drums (DOT spec.) .	60 gal (227.1 L)	60 gal (227.1 L)	60 gal (227.1 L)	60 gal (227.1 L)	60 gal (227.1 L).
Approved portable tanks ..	660 gal (2,498.1 L)	660 gal (2,498.1 L)	660 gal (2,498.1 L)	660 gal (2,498.1 L)	660 gal (2,498.1 L).

Container exemptions: (a) Medicines, beverages, foodstuffs, cosmetics, and other common consumer items, when packaged according to commonly accepted practices, shall be exempt from the requirements of § 1910.106(d)(2) (i) and (ii).



Dia *D*, inches (centimeters)		Exhaust *E*, dia. inches (cm)	Volume exhausted at 4,500 ft/min ft^3/min
Min.	Max.		
	12 (30.48)	3 (7.6)	220
Over 12 (30.48)	19 (48.26)	4 (10.16)	390
Over 19 (48.26)	30 (76.2)	5 (12.7)	610
Over 30 (76.2)	36 (91.44)	6 (15.24)	880

NOTE: If grinding wheels are used for disc grinding purposes, hoods must conform to structural strength and materials as described in 9.1.
Entry loss = 0.45 velocity pressure for tapered takeoff.



Disc dia. inches (centimeters)		Exhaust E		Volume exhaust at 4,500 ft/min. ft^3/min	Note
Min.	Max.	No Pipes	Dia.		
	19 (48.26)	1	5	510	
Over 19 (48.26)	25 (63.5)	1	6	880	When width "W" permits, exhaust ducts should be as near heaviest grinding as possible.
Over 25 (63.5)	30 (76.2)	1	7	1,200	
Over 30 (76.2)	53 (134.62)	2	6	1,770	
Over 53 (134.62)	72 (182.88)	4	8	5,280	

Entry loss = 0.45 velocity pressure for tapered takeoff.

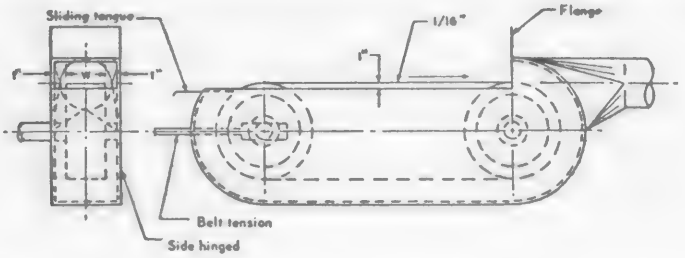


Figure D–57.3.—A Typical Hood for a Belt Operation

Belt width W. inches (centimeters)	Exhaust volume. ft.³/min
Up to 3 (7.62)	220
3 to 5 (7.62 to 12.7)	308
5 to 7 (12.7 to 17.78)	396
7 to 9 (17.78 to 22.86)	500
9 to 11 (22.86 to 27.94)	610
11 to 13 (27.94 to 33.02)	740

Minimum duct velocity = 4,500 ft/min branch, 3,500 ft/min main.
Entry loss = 0.45 velocity pressure for tapered takeoff; 0.65 velocity pressure for straight takeoff.

(6) *Scope.* This paragraph (g), prescribes the use of exhaust hood enclosures and systems in removing dust, dirt, fumes, and gases generated through the grinding, polishing, or buffing of ferrous and nonferrous metals.

(h) *Spray finishing operations*—(1) *Definitions applicable to this paragraph*—(i) *Spray-finishing operations.* Spray-finishing operations are employment of methods wherein organic or inorganic materials are utilized in dispersed form for deposit on surfaces to be coated, treated, or cleaned. Such methods of deposit may involve either automatic, manual, or electrostatic deposition but do not include metal spraying or metallizing, dipping, flow coating, roller coating, tumbling, centrifuging, or spray washing and degreasing as conducted in self-contained washing and degreasing machines or systems.

(ii) *Spray booth.* Spray booths are defined and described in § 1926.66(a). (See sections 103, 104, and 105 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33–1969).

(iii) *Spray room.* A spray room is a room in which spray-finishing operations not conducted in a spray booth are performed separately from other areas.

(iv) *Minimum maintained velocity.* Minimum maintained velocity is the velocity of air movement which must be maintained in order to meet minimum specified requirements for health and safety.

(2) *Location and application.* Spray booths or spray rooms are to be used to enclose or confine all operations. Spray-finishing operations shall be located as provided in sections 201 through 206 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33–1969.

(3) *Design and construction of spray booths.* (i) Spray booths shall be designed and constructed in accordance with § 1926.66(b) (1) through (4) and (6) through (10) (see sections 301–304 and 306–310 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33–1969), for general construction specifications. For a more detailed discussion of fundamentals relating to this subject, see ANSI Z9.2–1960

(A) Lights, motors, electrical equipment, and other sources of ignition shall conform to the requirements of § 1926.66(b)(10) and (c). (See section 310 and chapter 4 of the Standard for Spray Finishing Using Flammable and Combustible Materials NFPA No. 33–1969.)

(B) In no case shall combustible material be used in the construction of a spray booth and supply or exhaust duct connected to it.

(ii) Unobstructed walkways shall not be less than 6½ feet (1.976 m) high and shall be maintained clear of obstruction from any work location in the booth to a booth exit or open booth front. In booths where the open front is the only exit, such exits shall be not less than 3 feet (0.912 m) wide. In booths having multiple exits, such exits shall not be less than 2 feet (0.608 m) wide, provided that the maximum distance from the work location to the exit is 25 feet (7.6 m) or less. Where booth exits are provided with doors, such doors shall open outward from the booth.

(iii) Baffles, distribution plates, and dry-type overspray collectors shall conform to the requirements of § 1926.66(b) (4) and (5). (See sections 304 and 305 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33–1969.)

(A) Overspray filters shall be installed and maintained in accordance with the requirements of § 1926.66(b)(5), (see section 305 of the Standard for Spray Finishing Using Flammable and Combustible Materials, NFPA No. 33–1969), and shall only be in a location easily accessible for inspection, cleaning, or replacement.

(B) Where effective means, independent of the overspray filters, are installed which will result in design air distribution across the booth cross section, it is permissible to operate the booth without the filters in place.

(iv) (A) For wet or water-wash spray booths, the water-chamber enclosure, within which intimate contact of contaminated air and cleaning water or other cleaning medium is maintained, if made of steel, shall be 18 gage or heavier and adequately protected against corrosion.

(B) Chambers may include scrubber spray nozzles, headers, troughs, or other devices. Chambers shall be provided with adequate means for creating and maintaining scrubbing action for removal of particulate matter from the exhaust air stream.

(v) Collecting tanks shall be of welded steel construction or other suitable non-combustible material. If pits are used as collecting tanks, they shall be concrete, masonry, or other material having similar properties.

(A) Tanks shall be provided with weirs, skimmer plates, or screens to prevent sludge and floating paint from entering the pump suction box. Means for automatically maintaining the proper water level shall also be provided. Fresh water inlets shall not be submerged. They shall terminate at least one pipe diameter above the safety overflow level of the tank.

(B) Tanks shall be so constructed as to discourage accumulation of hazardous deposits.

(vi) Pump manifolds, risers, and headers shall be adequately sized to insure sufficient water flow to provide efficient operation of the water chamber.

(4) *Design and construction of spray rooms.* (i) Spray rooms, including floors, shall be constructed of masonry, concrete, or other noncombustible material.

(ii) Spray rooms shall have noncombustible fire doors and shutters.

(iii) Spray rooms shall be adequately ventilated so that the atmosphere in the breathing zone of the operator shall be maintained in accordance with the requirements of paragraph (h)(6)(ii) of this section.

(iv) Spray rooms used for production spray-finishing operations shall conform to the requirements for spray booths.

(5) *Ventilation.* (i) Ventilation shall be provided in accordance with provisions of § 1926.66(d) (see chapter 5 of the Standard for Spray Finishing Using Flammable or Combustible Materials, NFPA No. 33–1969), and in accordance with the following:

(A) Where a fan plenum is used to equalize or control the distribution of exhaust air movement through the booth, it shall be of sufficient strength or rigidity to withstand the differential air pressure or other superficially imposed loads for which the equipment is designed and also to facilitate cleaning. Construction specifications shall be at least equivalent to those of paragraph (h)(5)(iii) of this section.

(ii) Inlet or supply ductwork used to transport makeup air to spray booths or surrounding areas shall be constructed of noncombustible materials.

(A) If negative pressure exists within inlet ductwork, all seams and joints shall be sealed if there is a possibility of infiltration of harmful quantities of noxious gases, fumes, or mists from areas through which ductwork passes.

(B) Inlet ductwork shall be sized in accordance with volume flow requirements and provide design air requirements at the spray booth.

(C) Inlet ductwork shall be adequately supported throughout its length to sustain at least its own weight plus any negative pressure which is exerted upon it under normal operating conditions.

(iii) [Reserved]

(A) Exhaust ductwork shall be adequately supported throughout its length to sustain its weight plus any normal accumulation in interior during normal operating conditions and any negative pressure exerted upon it.

(B) Exhaust ductwork shall be sized in accordance with good design practice which shall include consideration of fan capacity, length of duct, number of turns and elbows, variation in size, volume, and character of materials being exhausted. See American National Standard Z9.2–1960 for further details and explanation concerning elements of design.

(C) Longitudinal joints in sheet steel ductwork shall be either lock-seamed, riveted, or welded. For other than steel construction, equivalent securing of joints shall be provided.

(D) Circumferential joints in ductwork shall be substantially fastened together and lapped in the direction of airflow. At least every fourth joint shall be provided with connecting flanges, bolted together, or of equivalent fastening security.

(E) Inspection or clean-out doors shall be provided for every 9 to 12 feet (2.736 to 3.648 m) of running length for ducts up to 12 inches (0.304 m) in diameter, but the distance between cleanout doors may be greater for larger pipes. (See 8.3.21 of American National Standard Z9.1–1951.) A clean-out door or doors shall be provided for servicing the fan, and where necessary, a drain shall be provided.

(F) Where ductwork passes through a combustible roof or wall, the roof or wall shall be protected at the point of penetration by open space or fire-resistive material between the duct and the roof or wall. When ducts pass through firewalls, they shall be provided with automatic fire dampers on both sides of the wall, except that three-eighth-inch steel plates may be used in lieu of automatic fire dampers for ducts not exceeding 18 inches (45.72 cm) in diameter.

(G) Ductwork used for ventilating any process covered in this standard shall not be connected to ducts ventilating any other process or any chimney or flue used for conveying any products of combustion.

(6) *Velocity and air flow requirements.* (i) Except where a spray booth has an adequate air replacement system, the velocity of air into all openings of a spray booth shall be not less than that specified in Table D–57.7 for the operating conditions specified. An adequate air replacement system is one which introduces replacement air upstream or above the object being sprayed and is so designed that the velocity of air in the booth cross section is not less than that specified in Table D–57.7 when measured upstream or above the object being sprayed.

TABLE D–57.7—MINIMUM MAINTAINED VELOCITIES INTO SPRAY BOOTHS

Operating conditions for objects completely inside booth	Crossdraft, f.p.m.	Airflow velocities, f.p.m.	
		Design	Range
Electrostatic and automatic airless operation contained in booth without operator.	Negligible	50 large booth	50–75
		100 small booth	75–125
Air-operated guns, manual or automatic	Up to 50	100 large booth	75–125
		150 small booth	125–175
Air-operated guns, manual or automatic	Up to 100	150 large booth	125–175
		200 small booth	150–250

NOTES:

(1) Attention is invited to the fact that the effectiveness of the spray booth is dependent upon the relationship of the depth of the booth to its height and width.

(2) Crossdrafts can be eliminated through proper design and such design should be sought. Crossdrafts in excess of 100fpm (feet per minute) should not be permitted.

(3) Excessive air pressures result in loss of both efficiency and material waste in addition to creating a backlash that may carry overspray and fumes into adjacent work areas.

(4) Booths should be designed with velocities shown in the column headed "Design." However, booths operating with velocities shown in the column headed "Range" are in compliance with this standard.

(ii) In addition to the requirements in paragraph (h)(6)(i) of this section the total air volume exhausted through a spray booth shall be such as to dilute solvent vapor to at least 25 percent of the lower explosive limit of the solvent being sprayed. An example of the method of calculating this volume is given below.

Example: To determine the lower explosive limits of the most common solvents used in spray finishing, see Table D–57.8. Column 1 gives the number of cubic feet of vapor per gallon of solvent and column 2 gives the lower explosive limit (LEL) in percentage by volume of air. Note that the quantity of solvent will be diminished by the quantity of solids and nonflammables contained in the finish.

To determine the volume of air in cubic feet necessary to dilute the vapor from 1 gallon of solvent to 25 percent of the lower explosive limit, apply the following formula:

Dilution volume required per gallon of solvent=4 (100–LEL) (cubic feet of vapor per gallon)÷ LEL

Using toluene as the solvent.

(1) LEL of toluene from Table D–57.8, column 2, is 1.4 percent.

(2) Cubic feet of vapor per gallon from Table D–57.8, column 1, is 30.4 cubic feet per gallon.

(3) Dilution volume required=

4 (100–1.4) 30.4÷ 1.4=8,564 cubic feet.

(4) To convert to cubic feet per minute of required ventilation, multiply the dilution volume required per gallon of solvent by the number of gallons of solvent evaporated per minute.

TABLE D–57.8—LOWER EXPLOSIVE LIMIT OF SOME COMMONLY USED SOLVENTS

Solvent	Cubic feet per gallon of vapor of liquid at 70° F (21.11° C).	Lower explosive limit in percent by volume of air at 70° F (21.11° C)
	Column 1	Column 2
Acetone	44.0	2.6
Amyl Acetate (iso)	21.6	[1] 1.0
Amyl Alcohol (n)	29.6	1.2
Amyl Alcohol (iso)	29.6	1.2
Benzene	36.8	[1] 1.4
Butyl Acetate (n)	24.8	1.7
Butyl Alcohol (n)	35.2	1.4
Butyl Cellosolve	24.8	1.1
Cellosolve	33.6	1.8
Cellosolve Acetate	23.2	1.7
Cyclohexanone	31.2	[1] 1.1
1,1 Dichloroethylene	42.4	5.9
1,2 Dichloroethylene	42.4	9.7
Ethyl Acetate	32.8	2.5
Ethyl Alcohol	55.2	4.3
Ethyl Lactate	28.0	[1] 1.5
Methyl Acetate	40.0	3.1
Methyl Alcohol	80.0	7.3
Methyl Cellosolve	40.8	2.5
Methyl Ethyl Ketone	96.0	1.8
Methyl n-Propyl Ketone	30.4	1.5
Naphtha (VM&P) (76° Naphtha)	22.4	0.9
Naphtha (100° Flash) Safety Solvent—Stoddard Solvent	23.2	1.0
Propyl Acetate (n)	27.2	2.6
Propyl Acetate (iso)	26.0	1.1
Propyl Alcohol (n)	44.8	2.1
Propyl Alcohol (iso)	44.0	2.0
Toluene	30.4	1.4
Turpentine	20.8	0.8
Xylene (o)	26.4	1.0

[1] At 212° F (100° C).

(iii) (A) When an operator must position himself in a booth downstream of the object being sprayed, an air supplied respirator or other type of respirator approved by the Bureau of Mines, U.S. Department of the Interior or specified in ANSI Z88.2–1969 for the material being sprayed should be used by the operator.

(B) Where downdraft booths are provided with doors, such doors shall be closed when spray painting.

(7) *Make-up air.* (i) Clean fresh air, free of contamination from adjacent industrial exhaust systems, chimneys, stacks, or vents, shall be supplied to a spray booth or room in quantities equal to the volume of air exhausted through the spray booth.

(ii) Where a spray booth or room receives make-up air through self-closing doors, dampers, or louvers, they shall be fully open at all times when the booth or room is in use for spraying. The velocity of air through such doors, dampers, or louvers shall not exceed 200 feet per minute. If the fan characteristics are such that the required air flow through the booth will be provided, higher velocities through the doors, dampers, or louvers may be used.

(iii) (A) Where the air supply to a spray booth or room is filtered, the fan static pressure shall be calculated on the assumption that the filters are dirty to the extent that they require cleaning or replacement.

(B) The rating of filters shall be governed by test data supplied by the manufacturer of the filter. A pressure gage shall be installed to show the pressure drop across the filters. This gage shall be marked to show the pressure drop at which the filters require cleaning or replacement. Filters shall be replaced or cleaned whenever the pressure drop across them becomes excessive or whenever the air flow through the face of the booth falls below that specified in Table D–57.7.

(iv) (A) Means for heating make-up air to any spray booth or room, before or at the time spraying is normally performed, shall be provided in all places where the outdoor temperature may be expected to remain below 55° F. (12.77° C.) for appreciable periods of time during the operation of the booth except where adequate and safe means of radiant heating for all operating personnel affected is provided. The replacement air during the heating seasons shall be maintained at not less than 65° F. (18.33° C.) at the point of entry into the spray booth or spray room. When otherwise unheated make-up air would be at a temperature of more than 10° F. below room temperature, its temperature shall be regulated as provided in section 3.6.3 of ANSI Z9.2–1960.

(B) As an alternative to an air replacement system complying with the preceding section, general heating of the building in which the spray room or booth is located may be employed provided that all occupied parts of the building are maintained at not less than 65° F. (18.33° C.) when the exhaust system is in operation or the general heating system supplemented by other sources of heat may be employed to meet this requirement.

(C) No means of heating make-up air shall be located in a spray booth.

(D) Where make-up air is heated by coal or oil, the products of combustion shall not be allowed to mix with the make-up air, and the products of combustion shall be conducted outside the building through a flue terminating at a point remote from all points where make-up air enters the building.

(E) Where make-up air is heated by gas, and the products of combustion are not mixed with the make-up air but are conducted through an independent flue to a point outside the building remote from all points where make-up air enters the building, it is not necessary to comply with paragraph (h)(7)(iv)(F) of this section.

(F) Where make-up air to any manually operated spray booth or room is heated by gas and the products of combustion are allowed to mix with the

supply air, the following precautions must be taken:

(1) The gas must have a distinctive and strong enough odor to warn workmen in a spray booth or room of its presence if in an unburned state in the make-up air.

(2) The maximum rate of gas supply to the make-up air heater burners must not exceed that which would yield in excess of 200 p.p.m. (parts per million) of carbon monoxide or 2,000 p.p.m. of total combustible gases in the mixture if the unburned gas upon the occurrence of flame failure were mixed with all of the make-up air supplied.

(3) A fan must be provided to deliver the mixture of heated air and products of combustion from the plenum chamber housing the gas burners to the spray booth or room.

(8) *Scope.* Spray booths or spray rooms are to be used to enclose or confine all spray finishing operations covered by this paragraph (h). This paragraph does not apply to the spraying of the exteriors of buildings, fixed tanks, or similar structures, nor to small portable spraying apparatus not used repeatedly in the same location.

(i) *Open surface tanks*—(1) *General.* (i) This paragraph applies to all operations involving the immersion of materials in liquids, or in the vapors of such liquids, for the purpose of cleaning or altering the surface or adding to or imparting a finish thereto or changing the character of the materials, and their subsequent removal from the liquid or vapor, draining, and drying. These operations include washing, electroplating, anodizing, pickling, quenching, dying, dipping, tanning, dressing, bleaching, degreasing, alkaline cleaning, stripping, rinsing, digesting, and other similar operations.

(ii) Except where specific construction specifications are prescribed in this section, hoods, ducts, elbows, fans, blowers, and all other exhaust system parts, components, and supports thereof shall be so constructed as to meet conditions of service and to facilitate maintenance and shall conform in construction to the specifications contained in American National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, Z9.2–1960.

(2) *Classification of open-surface tank operations.* (i) Open-surface tank operations shall be classified into 16 classes, numbered A–1 to D–57.4, inclusive.

(ii) *Determination of class.* Class is determined by two factors, hazard potential designated by a letter from A to D, inclusive, and rate of gas, vapor, or mist evolution designated by a number from 1 to 4, inclusive (for example, B.3).

(iii) Hazard potential is an index, on a scale of from A to D, inclusive, of the severity of the hazard associated with the substance contained in the tank because of the toxic, flammable, or explosive nature of the vapor, gas, or mist produced therefrom. The toxic hazard is determined from the concentration, measured in parts by volume of a gas or vapor, per million parts by volume of contaminated air (p.p.m.), or in milligrams of mist per cubic meter of air (mg./m.^{3}), below which ill effects are unlikely to occur to the exposed worker. The concentrations shall be those in § 1926.55 or other pertinent sections of this part.

(iv) The relative fire or explosion hazard is measured in degrees Fahrenheit in terms of the closed-cup flash point of the substance in the tank. Detailed information on the prevention of fire hazards in dip tanks may be found in Dip Tanks Containing Flammable or Combustible Liquids, NFPA No. 34–1966, National Fire Protection Association. Where the tank contains a mixture of liquids, other than organic solvents, whose effects are additive, the hygienic standard of the most toxic component (for example, the one having the lowest p.p.m. or mg./m.^{3}) shall be used, except where such substance constitutes an insignificantly small fraction of the mixture. For mixtures of organic solvents, their combined effect, rather than that of either individually, shall determine the hazard potential. In the absence of information to the contrary, the effects shall be considered as additive. If the sum of the ratios of the airborne concentration of each contaminant to the toxic concentration of that contaminant exceeds unity, the toxic concentration shall be considered to have been exceeded. (See Note A to paragraph (i)(2)(v) of this section.)

(v) Hazard potential shall be determined from Table D–57.9, with the value indicating greater hazard being used. When the hazardous material may be either a vapor with a threshhold limit value *(TLV)* in p.p.m. or a mist with a *TLV* in mg./m.^{3}, the *TLV* indicating the greater hazard shall be used (for example, A takes precedence over B or C; B over C; C over D).

Note A:

$$(c_1+TLV_1)+(c_2+TLV_2)+(c_3+TLV_3)+;\ \ldots\ (c_N+TLV_N)\ 1$$

where:

c=Concentration measured at the operation in p.p.m.

TABLE D–57.9—DETERMINATION OF HAZARD POTENTIAL

Hazard potential	Toxicity group		
	Gas or vapor (p.p.m.)	Mist (mg./m^3)	Flash point in degrees F. (C.)
A	0–10	0–0.1	
B	11–100	0.11–1.0	Under 100 (37.77)
C	101–500	1.1–10	100 200 (37.77–93.33)
D	Over 500	Over 10	Over 200 (93.33)

(vi) Rate of gas, vapor, or mist evolution is a numerical index, on a scale of from 1 to 4, inclusive, both of the relative capacity of the tank to produce gas, vapor, or mist and of the relative energy with which it is projected or carried upwards from the tank. Rate is evaluated in terms of

(A) The temperature of the liquid in the tank in degrees Fahrenheit;

(B) The number of degrees Fahrenheit that this temperature is below the boiling point of the liquid in degrees Fahrenheit;

(C) The relative evaporation of the liquid in still air at room temperature in an arbitrary scale—fast, medium, slow, or nil; and

(D) The extent that the tank gases or produces mist in an arbitrary scale—high, medium, low, and nil. (See Table D–57.10, Note 2.) Gassing depends upon electrochemical or mechanical processes, the effects of which have to be individually evaluated for each installation (see Table D–57.10, Note 3).

(vii) Rate of evolution shall be determined from Table D–57.10. When evaporation and gassing yield different rates, the lowest numerical value shall be used.

TABLE D–57.10—DETERMINATION OF RATE OF GAS, VAPOR, OR MIST EVOLUTION [1]

Rate	Liquid temperature,° F. (C.)	Degrees below boiling point	Relative evaporation [2]	Gassing [3]
1	Over 200 (93.33)	0–20	Fast	High.
2	150–200 (65.55–93.33)	21–50	Medium	Medium.
3	94–149 (34.44–65)	51–100	Slow	Low.
4	Under 94 (34.44)	Over 100	Nil	Nil.

[1] In certain classes of equipment, specifically vapor degreasers, an internal condenser or vapor level thermostat is used to prevent the vapor from leaving the tank during normal operation. In such cases, rate of vapor evolution from the tank into the workroom is not dependent upon the factors listed in the table, but rather upon abnormalities of operating procedure, such as carryout of vapors from excessively fast action, dragout of liquid by entrainment in parts, contamination of solvent by water and other materials, or improper heat balance. When operating procedure is excellent, effective rate of evolution may be taken as 4. When operating procedure is average, the effective rate of evolution may be taken as 3. When operation is poor, a rate of 2 or 1 is indicated, depending upon observed conditions.

[2] Relative evaporation rate is determined according to the methods described by A. K. Doolittle in Industrial and Engineering Chemistry, vol. 27, p. 1169, (3) where time for 100-percent evaporation is as follows: Fast: 0–3 hours; Medium: 3–12 hours; Slow: 12–50 hours; Nil: more than 50 hours.

[3] Gassing means the formation by chemical or electrochemical action of minute bubbles of gas under the surface of the liquid in the tank and is generally limited to aqueous solutions.

(3) *Ventilation.* Where ventilation is used to control potential exposures to workers as defined in paragraph (i)(2)(iii) of this section, it shall be adequate to reduce the concentration of the air contaminant to the degree that a hazard to the worker does not exist. Methods of ventilation are discussed in American National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, Z9.2–1960.

(4) *Control requirements.* (i) Control velocities shall conform to Table D–57.11 in all cases where the flow of air past the breathing or working zone of the operator and into the hoods is undisturbed by local environmental conditions, such as open windows, wall fans, unit heaters, or moving machinery.

(ii) All tanks exhausted by means of hoods which

(A) Project over the entire tank;

(B) Are fixed in position in such a location that the head of the workman, in all his normal operating positions while working at the tank, is in front of all hood openings; and

(C) Are completely enclosed on at least two sides, shall be considered to be exhausted through an enclosing hood.

(D) The quantity of air in cubic feet per minute necessary to be exhausted through an enclosing hood shall be not less than the product of the control velocity times the net area of all openings in the enclosure through which air can flow into the hood.

TABLE D–57.11—CONTROL VELOCITIES IN FEET PER MINUTE (F.P.M.) FOR UNDISTURBED LOCATIONS

Class	Enclosing hood		Lateral exhaust [1]	Canopy hood [2]	
	One open side	Two open sides		Three open sides	Four open sides
B–1 and A–2	100	150	150	Do not use	Do not use
A–3 [2], B–1, B–2, and C–1	75	100	100	125	175
A–3, C–2, and D–1 [3]	65	90	75	100	150
B–4 [2], C–3, and D–2 [3]	50	75	50	75	125
A–4, C–4, D–3 [3], and D–4 [4]	.....	.....	.....	.....	.....

[1] See Table D–57.12 for computation of ventilation rate.

[2] Do not use canopy hood for Hazard Potential A processes.

[3] Where complete control of hot water is desired, design as next highest class.

[4] General room ventilation required.

(iii) All tanks exhausted by means of hoods which do not project over the entire tank, and in which the direction of air movement into the hood or hoods is substantially horizontal, shall be considered to be laterally exhausted. The quantity of air in cubic feet per minute necessary to be laterally exhausted per square foot of tank area in order to maintain the required control velocity shall be determined from Table D–57.12 for all variations in ratio of tank width *(W)* to tank length *(L)*. The total quantity of air in cubic feet per minute required to be exhausted per tank shall be not less than the product of the area of tank surface times the cubic feet per minute per square foot of tank area, determined from Table D–57.12.

(A) For lateral exhaust hoods over 42 inches (1.06 m) wide, or where it is desirable to reduce the amount of air removed from the workroom, air supply slots or orifices shall be provided along the side or the center of the tank opposite from the exhaust slots. The

design of such systems shall meet the following criteria:

(1) The supply air volume plus the entrained air shall not exceed 50 percent of the exhaust volume.

(2) The velocity of the supply airstream as it reaches the effective control area of the exhaust slot shall be less than the effective velocity over the exhaust slot area.

Table D–57.12—Minimum Ventilation Rate in Cubic Feet of Air Per Minute Per Square Foot of Tank Area for Lateral Exhaust

Required minimum control velocity, f.p.m. (from Table D–57.11)	C.f.m. per sq. ft. to maintain required minimum velocities at following ratios (tank width (W)/tank length (L)).[1, 2]				
	0.0–0.09	0.1–0.24	0.25–0.49	0.5–0.99	1.0–2.0
Hood along one side or two parallel sides of tank when one hood is against a wall or baffle.[2] Also for a manifold along tank centerline.[3]					
50	50	60	75	90	100
75	75	90	110	130	150
100	100	125	150	175	200
150	150	190	225	260	300
Hood along one side or two parallel sides of free standing tank not against wall or baffle.					
50	75	90	100	110	125
75	110	130	150	170	190
100	150	175	200	225	250
150	225	260	300	340	375

[1] It is not practicable to ventilate across the long dimension of a tank whose ratio *W/L* exceeds 2.0.
It is undesirable to do so when *W/L* exceeds 1.0. For circular tanks with lateral exhaust along up to 1/2 the circumference, use *W/L*=1.0; for over one-half the circumference use *W/L*=0.5.
[2] Baffle is a vertical plate the same length as the tank, and with the top of the plate as high as the tank is wide. If he exhaust hood is on the side of a tank against a building wall or close to it, it is perfectly baffled.
[3] Use *W/2* as tank width in computing when manifold is along centerline, or when hoods are used on two parallel sides of a tank.
Tank Width *(W)* means the effective width over which the hood must pull air to operate (for example, where the hood face is set back from the edge of the tank, this set back must be added in measuring tank width). The surface area of tanks can frequently be reduced and better control obtained (particularly on conveyorized systems) by using covers extending from the upper edges of the slots toward the center of the tank.

(3) The vertical height of the receiving exhaust hood, including any baffle, shall not be less than one-quarter the width of the tank.

(4) The supply airstream shall not be allowed to impinge on obstructions between it and the exhaust slot in such a manner as to significantly interfere with the performance of the exhaust hood.

(5) Since most failure of push-pull systems result from excessive supply air volumes and pressures, methods of measuring and adjusting the supply air shall be provided. When satisfactory control has been achieved, the adjustable features of the hood shall be fixed so that they will not be altered.

(iv) All tanks exhausted by means of hoods which project over the entire tank, and which do not conform to the definition of enclosing hoods, shall be considered to be overhead canopy hoods. The quantity of air in cubic feet per minute necessary to be exhausted through a canopy hood shall be not less than the product of the control velocity times the net area of all openings between the bottom edges of the hood and the top edges of the tank.

(v) The rate of vapor evolution (including steam or products of combustion) from the process shall be estimated. If the rate of vapor evolution is equal to or greater than 10 percent of the calculated exhaust volume required, the exhaust volume shall be increased in equal amount.

(5) *Spray cleaning and degreasing.* Wherever spraying or other mechanical means are used to disperse a liquid above an open-surface tank, control must be provided for the airborne spray. Such operations shall be enclosed as completely as possible. The inward air velocity into the enclosure shall be sufficient to prevent the discharge of spray into the workroom. Mechanical baffles may be used to help prevent the discharge of spray. Spray painting operations are covered by paragraph (h) of this section.

(6) *Control means other than ventilation.* Tank covers, foams, beads, chips, or other materials floating on the tank surface so as to confine gases, mists, or vapors to the area under the cover or to the foam, bead, or chip layer; or surface tension depressive agents added to the liquid in the tank to minimize mist formation, or any combination thereof, may all be used as gas, mist, or vapor control means for open-surface tank operations, provided that they effectively reduce the concentrations of hazardous materials in the vicinity of the worker below the limits set in accordance with paragraph (i)(2) of this section.

(7) *System design.* (i) The equipment for exhausting air shall have sufficient capacity to produce the flow of air required in each of the hoods and openings of the system.

(ii) The capacity required in paragraph (i)(7)(i) of this section shall be obtained when the airflow producing equipment is operating against the following pressure losses, the sum of which is the static pressure:

(A) Entrance losses into the hood.

(B) Resistance to airflow in branch pipe including bends and transformations.

(C) Entrance loss into the main pipe.

(D) Resistance to airflow in main pipe including bends and transformations.

(E) Resistance of mechanical equipment; that is, filters, washers, condensers, absorbers, etc., plus their entrance and exit losses.

(F) Resistance in outlet duct and discharge stack.

(iii) Two or more operations shall not be connected to the same exhaust system where either one or the combination of the substances removed

may constitute a fire, explosion, or chemical reaction hazard in the duct system. Traps or other devices shall be provided to insure that condensate in ducts does not drain back into any tank.

(iv) The exhaust system, consisting of hoods, ducts, air mover, and discharge outlet, shall be designed in accordance with American National Standard Fundamentals Governing the Design and Operation of Local Exhaust Systems, Z9.2–1960, or the manual, Industrial Ventilation, published by the American Conference of Governmental Industrial Hygienists 1970. Airflow and pressure loss data provided by the manufacturer of any air cleaning device shall be included in the design calculations.

(8) *Operation.* (i) The required airflow shall be maintained at all times during which gas, mist, or vapor is emitted from the tank, and at all times the tank, the draining, or the drying area is in operation or use. When the system is first installed, the airflow from each hood shall be measured by means of a pitot traverse in the exhaust duct and corrective action taken if the flow is less than that required. When the proper flow is obtained, the hood static pressure shall be measured and recorded. At intervals of not more than 3 months operation, or after a prolonged shutdown period, the hoods and duct system shall be inspected for evidence of corrosion or damage. In any case where the airflow is found to be less than required, it shall be increased to the required value. (Information on airflow and static pressure measurement and calculations may be found in American National Standard Fundamental Governing the Design and Operation of Local Exhaust Systems, Z9.2–1960, or in the manual, Industrial Ventilation, published by the American Conference of Governmental Industrial Hygienists.)

(ii) The exhaust system shall discharge to the outer air in such a manner that the possibility of its effluent entering any building is at a minimum. Recirculation shall only be through a device for contaminant removal which will prevent the creation of a health hazard in the room or area to which the air is recirculated.

(iii) A volume of outside air in the range of 90 percent to 110 percent of the exhaust volume shall be provided to each room having exhaust hoods. The outside air supply shall enter the workroom in such a manner as not to be detrimental to any exhaust hood. The airflow of the makeup air system shall be measured on installation. Corrective action shall be taken when the airflow is below that required. The makeup air shall be uncontaminated.

(9) *Personal protection.* (i) All employees working in and around open-surface tank operations must be instructed as to the hazards of their respective jobs, and in the personal protection and first aid procedures applicable to these hazards.

(ii) All persons required to work in such a manner that their feet may become wet shall be provided with rubber or other impervious boots or shoes, rubbers, or wooden-soled shoes sufficient to keep feet dry.

(iii) All persons required to handle work wet with a liquid other than water shall be provided with gloves impervious to such a liquid and of a length sufficient to prevent entrance of liquid into the tops of the gloves. The interior of gloves shall be kept free from corrosive or irritating contaminants.

(iv) All persons required to work in such a manner that their clothing may become wet shall be provided with such aprons, coats, jackets, sleeves, or other garments made of rubber, or of other materials impervious to liquids other than water, as are required to keep their clothing dry. Aprons shall extend well below the top of boots to prevent liquid splashing into the boots. Provision of dry, clean, cotton clothing along with rubber shoes or short boots and an apron impervious to liquids other than water shall be considered a satisfactory substitute where small parts are cleaned, plated, or acid dipped in open tanks and rapid work is required.

(v) Whenever there is a danger of splashing, for example, when additions are made manually to the tanks, or when acids and chemicals are removed from the tanks, the employees so engaged shall be required to wear either tight-fitting chemical goggles or an effective face shield. See § 1926.102.

(vi) When, during emergencies as described in paragraph (i)(11)(v) of this section, workers must be in areas where concentrations of air contaminants are greater than the limit set by paragraph (i)(2)(iii) of this section, or oxygen concentrations are less than 19.5 percent, they shall be required to wear respirators adequate to reduce their exposure to a level below these limits, or to provide adequate oxygen. Such respirators shall also be provided in marked, quickly accessible storage compartments built for the purpose, when there exists the possibility of accidental release of hazardous concentrations of air contaminants. Respirators shall be approved by the U.S. Bureau of Mines, U.S. Department of the Interior and shall be selected by a competent industrial hygienist or other technically qualified source. Respirators shall be used in accordance with § 1926.103, and persons who may require them shall be trained in their use.

(vii) Near each tank containing a liquid which may burn, irritate, or otherwise be harmful to the skin if splashed upon the worker's body, there shall be a supply of clean cold water. The water pipe (carrying a pressure not exceeding 25 pounds (11.325 kg)) shall be provided with a quick opening valve and at least 48 inches (1.216 m) of hose not smaller than three-fourths inch, so that no time may be lost in washing off liquids from the skin or clothing. Alternatively, deluge showers and eye flushes shall be provided in cases where harmful chemicals may be splashed on parts of the body.

(viii) Operators with sores, burns, or other skin lesions requiring medical treatment shall not be allowed to work at their regular operations until so authorized by a physician. Any small skin abrasions, cuts, rash, or open sores which are found or reported shall be treated by a properly designated person so that chances of exposures to the chemicals are removed. Workers exposed to chromic acids shall have a periodic examination made of the nostrils and other parts of the body, to detect incipient ulceration.

(ix) Sufficient washing facilities, including soap, individual towels, and hot water, shall be provided for all persons required to use or handle any liquids which may burn, irritate, or otherwise be harmful to the skin, on the basis of at least one basin (or its equivalent) with a hot water faucet for every 10 employees. See § 1926.51(f).

(x) Locker space or equivalent clothing storage facilities shall be provided to prevent contamination of street clothing.

(xi) First aid facilities specific to the hazards of the operations conducted shall be readily available.

(10) *Special precautions for cyanide.* Dikes or other arrangements shall be provided to prevent the possibility of intermixing of cyanide and acid in the event of tank rupture.

(11) *Inspection, maintenance, and installation.* (i) Floors and platforms around tanks shall be prevented from becoming slippery both by original type of construction and by frequent flushing. They shall be firm, sound, and of the design and construction to minimize the possibility of tripping.

(ii) Before cleaning the interior of any tank, the contents shall be drained off, and the cleanout doors shall be opened where provided. All pockets in tanks or pits, where it is possible for hazardous

vapors to collect, shall be ventilated and cleared of such vapors.

(iii) Tanks which have been drained to permit employees to enter for the purposes of cleaning, inspection, or maintenance may contain atmospheres which are hazardous to life or health, through the presence of flammable or toxic air contaminants, or through the absence of sufficient oxygen. Before employees shall be permitted to enter any such tank, appropriate tests of the atmosphere shall be made to determine if the limits set by paragraph (i)(2)(iii) of this section are exceeded, or if the oxygen concentration is less than 19.5 percent.

(iv) If the tests made in accordance with paragraph (i)(11)(iii) of this section indicate that the atmosphere in the tank is unsafe, before any employee is permitted to enter the tank, the tank shall be ventilated until the hazardous atmosphere is removed, and ventilation shall be continued so as to prevent the occurrence of a hazardous atmosphere as long as an employee is in the tank.

(v) If, in emergencies, such as rescue work, it is necessary to enter a tank which may contain a hazardous atmosphere, suitable respirators, such as self-contained breathing apparatus; hose mask with blower, if there is a possibility of oxygen deficiency; or a gas mask, selected and operated in accordance with paragraph (i)(9)(vi) of this section, shall be used. If a contaminant in the tank can cause dermatitis, or be absorbed through the skin, the employee entering the tank shall also wear protective clothing. At least one trained standby employee, with suitable respirator, shall be present in the nearest uncontaminated area. The standby employee must be able to communicate with the employee in the tank and be able to haul him out of the tank with a lifeline if necessary.

(vi) Maintenance work requiring welding or open flame, where toxic metal fumes such as cadmium, chromium, or lead may be evolved, shall be done only with sufficient local exhaust ventilation to prevent the creation of a health hazard, or be done with respirators selected and used in accordance with paragraph (i)(9)(vi) of this section. Welding, or the use of open flames near any solvent cleaning equipment shall be permitted only after such equipment has first been thoroughly cleared of solvents and vapors.

(12) *Vapor degreasing tanks.* (i) In any vapor degreasing tank equipped with a condenser or vapor level thermostat, the condenser or thermostat shall keep the level of vapors below the top edge of the tank by a distance at least equal to one-half the tank width, or at least 36 inches (0.912 m), whichever is shorter.

(ii) Where gas is used as a fuel for heating vapor degreasing tanks, the combustion chamber shall be of tight construction, except for such openings as the exhaust flue, and those that are necessary for supplying air for combustion. Flues shall be of corrosion-resistant construction and shall extend to the outer air. If mechanical exhaust is used on this flue, a draft diverter shall be used. Special precautions must be taken to prevent solvent fumes from entering the combustion air of this or any other heater when chlorinated or fluorinated hydrocarbon solvents (for example, trichloroethylene, Freon) are used.

(iii) Heating elements shall be so designed and maintained that their surface temperature will not cause the solvent or mixture to decompose, break down, or be converted into an excessive quantity of vapor.

(iv) Tanks or machines of more than 4 square feet (0.368 m^2) of vapor area, used for solvent cleaning or vapor degreasing, shall be equipped with suitable cleanout or sludge doors located near the bottom of each tank or still. These doors shall be so designed and gasketed that there will be no leakage of solvent when they are closed.

(13) *Scope.* (i) This paragraph (i) applies to all operations involving the immersion of materials in liquids, or in the vapors of such liquids, for the purpose of cleaning or altering their surfaces, or adding or imparting a finish thereto, or changing the character of the materials, and their subsequent removal from the liquids or vapors, draining, and drying. Such operations include washing, electroplating, anodizing, pickling, quenching, dyeing, dipping, tanning, dressing, bleaching, degreasing, alkaline cleaning, stripping, rinsing, digesting, and other similar operations, but do not include molten materials handling operations, or surface coating operations.

(ii) *Molten materials handling operations* means all operations, other than welding, burning, and soldering operations, involving the use, melting, smelting, or pouring of metals, alloys, salts, or other similar substances in the molten state. Such operations also include heat treating baths, descaling baths, die casting stereotyping, galvanizing, tinning, and similar operations.

(iii) *Surface coating operations* means all operations involving the application of protective, decorative, adhesive, or strengthening coating or impregnation to one or more surfaces, or into the interstices of any object or material, by means of spraying, spreading, flowing, brushing, roll coating, pouring, cementing, or similar means; and any subsequent draining or drying operations, excluding open-tank operations.

11. In subpart D, a new § 1926.64 is added to read as follows:

§ 1926.64 Process safety management of highly hazardous chemicals.

Purpose. This section contains requirements for preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals. These releases may result in toxic, fire or explosion hazards.

(a) *Application.* (1) This section applies to the following:

(i) A process which involves a chemical at or above the specified threshold quantities listed in Appendix A to this section;

(ii) A process which involves a flammable liquid or gas (as defined in § 1926.59(c) of this part) on site in one location, in a quantity of 10,000 pounds (4535.9 kg) or more except for:

(A) Hydrocarbon fuels used solely for workplace consumption as a fuel (e.g., propane used for comfort heating, gasoline for vehicle refueling), if such fuels are not a part of a process containing another highly hazardous chemical covered by this standard;

(B) Flammable liquids stored in atmospheric tanks or transferred which are kept below their normal boiling point without benefit of chilling or refrigeration.

(2) This section does not apply to:

(i) Retail facilities;

(ii) Oil or gas well drilling or servicing operations; or,

(iii) Normally unoccupied remote facilities.

(b) *Definitions.* Atmospheric tank means a storage tank which has been designed to operate at pressures from atmospheric through 0.5 p.s.i.g. (pounds per square inch gauge, 3.45 Kpa).

Boiling point means the boiling point of a liquid at a pressure of 14.7 pounds per square inch absolute (p.s.i.a.) (760 mm.). For the purposes of this section, where an accurate boiling point is unavailable for the material in question, or for mixtures which do not have a constant boiling point, the 10 percent point of a distillation performed in accordance with the Standard Method of Test for Distillation of Petroleum Products, ASTM D-86-62, may be used as the boiling point of the liquid.

Catastrophic release means a major uncontrolled emission, fire, or explosion, involving one or more highly hazardous chemicals, that presents

serious danger to employees in the workplace.

Facility means the buildings, containers or equipment which contain a process.

Highly hazardous chemical means a substance possessing toxic, reactive, flammable, or explosive properties and specified by paragraph (a)(1) of this section.

Hot work means work involving electric or gas welding, cutting, brazing, or similar flame or spark-producing operations.

Normally unoccupied remote facility means a facility which is operated, maintained or serviced by employees who visit the facility only periodically to check its operation and to perform necessary operating or maintenance tasks. No employees are permanently stationed at the facility. Facilities meeting this definition are not contiguous with, and must be geographically remote from all other buildings, processes or persons.

Process means any activity involving a highly hazardous chemical including any use, storage, manufacturing, handling, or the on-site movement of such chemicals, or combination of these activities. For purposes of this definition, any group of vessels which are interconnected and separate vessels which are located such that a highly hazardous chemical could be involved in a potential release shall be considered a single process.

Replacement in kind means a replacement which satisfies the design specification.

Trade secret means any confidential formula, pattern, process, device, information or compilation of information that is used in an employer's business, and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it. Appendix D contained in § 1926.59 sets out the criteria to be used in evaluating trade secrets.

(c) *Employee participation.* (1) Employers shall develop a written plan of action regarding the implementation of the employee participation required by this paragraph.

(2) Employers shall consult with employees and their representatives on the conduct and development of process hazards analyses and on the development of the other elements of process safety management in this standard.

(3) Employers shall provide to employees and their representatives access to process hazard analyses and to all other information required to be developed under this standard.

(d) *Process safety information.* In accordance with the schedule set forth in paragraph (e)(1) of this section, the employer shall complete a compilation of written process safety information before conducting any process hazard analysis required by the standard. The compilation of written process safety information is to enable the employer and the employees involved in operating the process to identify and understand the hazards posed by those processes involving highly hazardous chemicals. This process safety information shall include information pertaining to the hazards of the highly hazardous chemicals used or produced by the process, information pertaining to the technology of the process, and information pertaining to the equipment in the process.

(1) *Information pertaining to the hazards of the highly hazardous chemicals in the process.* This information shall consist of at least the following:

(i) Toxicity information;

(ii) Permissible exposure limits;

(iii) Physical data;

(iv) Reactivity data:

(v) Corrosivity data;

(vi) Thermal and chemical stability data; and

(vii) Hazardous effects of inadvertent mixing of different materials that could foreseeably occur.

Note: Material Safety Data Sheets meeting the requirements of 29 CFR 1926.59(g) may be used to comply with this requirement to the extent they contain the information required by this subparagraph.

(2) *Information pertaining to the technology of the process.* (i) Information concerning the technology of the process shall include at least the following:

(A) A block flow diagram or simplified process flow diagram (see Appendix B to this section);

(B) Process chemistry;

(C) Maximum intended inventory;

(D) Safe upper and lower limits for such items as temperatures, pressures, flows or compositions; and,

(E) An evaluation of the consequences of deviations, including those affecting the safety and health of employees.

(ii) Where the original technical information no longer exists, such information may be developed in conjunction with the process hazard analysis in sufficient detail to support the analysis.

(3) *Information pertaining to the equipment in the process.* (i) Information pertaining to the equipment in the process shall include:

(A) Materials of construction;

(B) Piping and instrument diagrams (P&ID's);

(C) Electrical classification;

(D) Relief system design and design basis;

(E) Ventilation system design;

(F) Design codes and standards employed;

(G) Material and energy balances for processes built after May 26, 1992; and,

(H) Safety systems (e.g. interlocks, detection or suppression systems).

(ii) The employer shall document that equipment complies with recognized and generally accepted good engineering practices.

(iii) For existing equipment designed and constructed in accordance with codes, standards, or practices that are no longer in general use, the employer shall determine and document that the equipment is designed, maintained, inspected, tested, and operating in a safe manner.

(e) *Process hazard analysis.* (1) The employer shall perform an initial process hazard analysis (hazard evaluation) on processes covered by this standard. The process hazard analysis shall be appropriate to the complexity of the process and shall identify, evaluate, and control the hazards involved in the process. Employers shall determine and document the priority order for conducting process hazard analyses based on a rationale which includes such considerations as extent of the process hazards, number of potentially affected employees, age of the process, and operating history of the process. The process hazard analysis shall be conducted as soon as possible, but not later than the following schedule:

(i) No less than 25 percent of the initial process hazards analyses shall be completed by May 26, 1994;

(ii) No less than 50 percent of the initial process hazards analyses shall be completed by May 26, 1995;

(iii) No less than 75 percent of the initial process hazards analyses shall be completed by May 26, 1996;

(iv) All initial process hazards analyses shall be completed by May 26, 1997.

(v) Process hazards analyses completed after May 26, 1987 which meet the requirements of this paragraph are acceptable as initial process hazards analyses. These process hazard analyses shall be updated and revalidated, based on their completion date, in accordance with paragraph (e)(6) of this standard.

(2) The employer shall use one or more of the following methodologies that are appropriate to determine and evaluate the hazards of the process being analyzed.

(i) What-If;

(ii) Checklist;
(iii) What-If/Checklist;
(iv) Hazard and Operability Study (HAZOP);
(v) Failure Mode and Effects Analysis (FMEA);
(vi) Fault-Tree Analysis; or
(vii) An appropriate equivalent methodology.

(3) The process hazard analysis shall address:
(i) The hazards of the process;
(ii) The identification of any previous incident which had a likely potential for catastrophic consequences in the workplace;
(iii) Engineering and administrative controls applicable to the hazards and their interrelationships such as appropriate application of detection methodologies to provide early warning of releases. (Acceptable detection methods might include process monitoring and control instrumentation with alarms, and detection hardware such as hydrocarbon sensors.);
(iv) Consequences of failure of engineering and administrative controls;
(v) Facility siting;
(vi) Human factors; and
(vii) A qualitative evaluation of a range of the possible safety and health effects of failure of controls on employees in the workplace.

(4) The process hazard analysis shall be performed by a team with expertise in engineering and process operations, and the team shall include at least one employee who has experience and knowledge specific to the process being evaluated. Also, one member of the team must be knowledgeable in the specific process hazard analysis methodology being used.

(5) The employer shall establish a system to promptly address the team's findings and recommendations; assure that the recommendations are resolved in a timely manner and that the resolution is documented; document what actions are to be taken; complete actions as soon as possible; develop a written schedule of when these actions are to be completed; communicate the actions to operating, maintenance and other employees whose work assignments are in the process and who may be affected by the recommendations or actions.

(6) At least every five (5) years after the completion of the initial process hazard analysis, the process hazard analysis shall be updated and revalidated by a team meeting the requirements in paragraph (e)(4) of this section, to assure that the process hazard analysis is consistent with the current process.

(7) Employers shall retain process hazards analyses and updates or revalidations for each process covered by this section, as well as the documented resolution of recommendations described in paragraph (e)(5) of this section for the life of the process.

(f) *Operating procedures.* (1) The employer shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information and shall address at least the following elements.

(i) Steps for each operating phase:
(A) Initial startup;
(B) Normal operations;
(C) Temporary operations;
(D) Emergency shutdown including the conditions under which emergency shutdown is required, and the assignment of shutdown responsibility to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner.
(E) Emergency operations;
(F) Normal shutdown; and,
(G) Startup following a turnaround, or after an emergency shutdown.

(ii) Operating limits:
(A) Consequences of deviation; and
(B) Steps required to correct or avoid deviation.

(iii) Safety and health considerations:
(A) Properties of, and hazards presented by, the chemicals used in the process;
(B) Precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment;
(C) Control measures to be taken if physical contact or airborne exposure occurs;
(D) Quality control for raw materials and control of hazardous chemical inventory levels; and,
(E) Any special or unique hazards.

(iv) Safety systems and their functions.

(2) Operating procedures shall be readily accessible to employees who work in or maintain a process.

(3) The operating procedures shall be reviewed as often as necessary to assure that they reflect current operating practice, including changes that result from changes in process chemicals, technology, and equipment, and changes to facilities. The employer shall certify annually that these operating procedures are current and accurate.

(4) The employer shall develop and implement safe work practices to provide for the control of hazards during operations such as lockout/tagout; confined space entry; opening process equipment or piping; and control over entrance into a facility by maintenance, contractor, laboratory, or other support personnel. These safe work practices shall apply to employees and contractor employees.

(g) *Training*—(1) *Initial training.* (i) Each employee presently involved in operating a process, and each employee before being involved in operating a newly assigned process, shall be trained in an overview of the process and in the operating procedures as specified in paragraph (f) of this section. The training shall include emphasis on the specific safety and health hazards, emergency operations including shutdown, and safe work practices applicable to the employee's job tasks.

(ii) In lieu of initial training for those employees already involved in operating a process on May 26, 1992, an employer may certify in writing that the employee has the required knowledge, skills, and abilities to safely carry out the duties and responsibilities as specified in the operating procedures.

(2) *Refresher training.* Refresher training shall be provided at least every three years, and more often if necessary, to each employee involved in operating a process to assure that the employee understands and adheres to the current operating procedures of the process. The employer, in consultation with the employees involved in operating the process, shall determine the appropriate frequency of refresher training.

(3) *Training documentation.* The employer shall ascertain that each employee involved in operating a process has received and understood the training required by this paragraph. The employer shall prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training.

(h) *Contractors*—(1) *Application.* This paragraph applies to contractors performing maintenance or repair, turnaround, major renovation, or specialty work on or adjacent to a covered process. It does not apply to contractors providing incidental services which do not influence process safety, such as janitorial work, food and drink services, laundry, delivery or other supply services.

(2) *Employer responsibilities.* (i) The employer, when selecting a contractor, shall obtain and evaluate information regarding the contract employer's safety performance and programs.

(ii) The employer shall inform contract employers of the known potential fire, explosion, or toxic release hazards related to the contractor's work and the process.

(iii) The employer shall explain to contract employers the applicable

provisions of the emergency action plan required by paragraph (n) of this section.

(iv) The employer shall develop and implement safe work practices consistent with paragraph (f)(4) of this section, to control the entrance, presence and exit of contract employers and contract employees in covered process areas.

(v) The employer shall periodically evaluate the performance of contract employers in fulfilling their obligations as specified in paragraph (h)(3) of this section.

(vi) The employer shall maintain a contract employee injury and illness log related to the contractor's work in process areas.

(3) *Contract employer responsibilities.* (i) The contract employer shall assure that each contract employee is trained in the work practices necessary to safely perform his/her job.

(ii) The contract employer shall assure that each contract employee is instructed in the known potential fire, explosion, or toxic release hazards related to his/her job and the process, and the applicable provisions of the emergency action plan.

(iii) The contract employer shall document that each contract employee has received and understood the training required by this paragraph. The contract employer shall prepare a record which contains the identity of the contract employee, the date of training, and the means used to verify that the employee understood the training.

(iv) The contract employer shall assure that each contract employee follows the safety rules of the facility including the safe work practices required by paragraph (f)(4) of this section.

(v) The contract employer shall advise the employer of any unique hazards presented by the contract employer's work, or of any hazards found by the contract employer's work.

(i) *Pre-startup safety review.* (1) The employer shall perform a pre-startup safety review for new facilities and for modified facilities when the modification is significant enough to require a change in the process safety information.

(2) The pre-startup safety review shall confirm that prior to the introduction of highly hazardous chemicals to a process:

(i) Construction and equipment is in accordance with design specifications;

(ii) Safety, operating, maintenance, and emergency procedures are in place and are adequate;

(iii) For new facilities, a process hazard analysis has been performed and recommendations have been resolved or implemented before startup; and modified facilities meet the requirements contained in management of change, paragraph (l).

(iv) Training of each employee involved in operating a process has been completed.

(j) *Mechanical integrity*—(1) *Application.* Paragraphs (j)(2) through (j)(6) of this section apply to the following process equipment:

(i) Pressure vessels and storage tanks;

(ii) Piping systems (including piping components such as valves);

(iii) Relief and vent systems and devices;

(iv) Emergency shutdown systems;

(v) Controls (including monitoring devices and sensors, alarms, and interlocks) and,

(vi) Pumps.

(2) *Written procedures.* The employer shall establish and implement written procedures to maintain the on-going integrity of process equipment.

(3) *Training for process maintenance activities.* The employer shall train each employee involved in maintaining the on-going integrity of process equipment in an overview of that process and its hazards and in the procedures applicable to the employee's job tasks to assure that the employee can perform the job tasks in a safe manner.

(4) *Inspection and testing.* (i) Inspections and tests shall be performed on process equipment.

(ii) Inspection and testing procedures shall follow recognized and generally accepted good engineering practices.

(iii) The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations and good engineering practices, and more frequently if determined to be necessary by prior operating experience.

(iv) The employer shall document each inspection and test that has been performed on process equipment. The documentation shall identify the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other identifier of the equipment on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test.

(5) *Equipment deficiencies.* The employer shall correct deficiencies in equipment that are outside acceptable limits (defined by the process safety information in paragraph (d) of this section) before further use or in a safe and timely manner when necessary means are taken to assure safe operation.

(6) *Quality assurance.* (i) In the construction of new plants and equipment, the employer shall assure that equipment as it is fabricated is suitable for the process application for which they will be used.

(ii) Appropriate checks and inspections shall be performed to assure that equipment is installed properly and consistent with design specifications and the manufacturer's instructions.

(iii) The employer shall assure that maintenance materials, spare parts and equipment are suitable for the process application for which they will be used.

(k) *Hot work permit.* (1) The employer shall issue a hot work permit for hot work operations conducted on or near a covered process.

(2) The permit shall document that the fire prevention and protection requirements in 29 CFR 1926.352 have been implemented prior to beginning the hot work operations; it shall indicate the date(s) authorized for hot work; and identify the object on which hot work is to be performed. The permit shall be kept on file until completion of the hot work operations.

(l) *Management of change.* (1) The employer shall establish and implement written procedures to manage changes (except for "replacements in kind") to process chemicals, technology, equipment, and procedures; and, changes to facilities that affect a covered process.

(2) The procedures shall assure that the following considerations are addressed prior to any change:

(i) The technical basis for the proposed change;

(ii) Impact of change on safety and health;

(iii) Modifications to operating procedures;

(iv) Necessary time period for the change; and,

(v) Authorization requirements for the proposed change.

(3) Employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start-up of the process or affected part of the process.

(4) If a change covered by this paragraph results in a change in the process safety information required by paragraph (d) of this section, such information shall be updated accordingly.

(5) If a change covered by this paragraph results in a change in the operating procedures or practices required by paragraph (f) of this section, such procedures or practices shall be updated accordingly.

(m) *Incident investigation.* (1) The employer shall investigate each incident which resulted in, or could reasonably have resulted in a catastrophic release of highly hazardous chemical in the workplace.

(2) An incident investigation shall be initiated as promptly as possible, but not later than 48 hours following the incident.

(3) An incident investigation team shall be established and consist of at least one person knowledgeable in the process involved, including a contract employee if the incident involved work of the contractor, and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident.

(4) A report shall be prepared at the conclusion of the investigation which includes at a minimum:

(i) Date of incident;

(ii) Date investigation began;

(iii) A description of the incident;

(iv) The factors that contributed to the incident; and,

(v) Any recommendations resulting from the investigation.

(5) The employer shall establish a system to promptly address and resolve the incident report findings and recommendations. Resolutions and corrective actions shall be documented.

(6) The report shall be reviewed with all affected personnel whose job tasks are relevant to the incident findings including contract employees where applicable.

(7) Incident investigation reports shall be retained for five years.

(n) Emergency planning and response. The employer shall establish and implement an emergency action plan for the entire plant in accordance with the provisions of 29 CFR 1926.35(a). In addition, the emergency action plan shall include procedures for handling small releases. Employers covered under this standard may also be subject to the hazardous waste and emergency response provisions contained in 29 CFR 1926.65(a), (p) and (q).

(o) *Compliance audits.* (1) Employers shall certify that they have evaluated compliance with the provisions of this section at least every three years to verify that the procedures and practices developed under the standard are adequate and are being followed.

(2) The compliance audit shall be conducted by at least one person knowledgeable in the process.

(3) A report of the findings of the audit shall be developed.

(4) The employer shall promptly determine and document an appropriate response to each of the findings of the compliance audit, and document that deficiencies have been corrected.

(5) Employers shall retain the two (2) most recent compliance audit reports.

(p) *Trade secrets.* (1) Employers shall make all information necessary to comply with the section available to those persons responsible for compiling the process safety information (required by paragraph (d) of this section), those assisting in the development of the process hazard analysis (required by paragraph (e) of this section), those responsible for developing the operating procedures (required by paragraph (f) of this section), and those involved in incident investigations (required by paragraph (m) of this section), emergency planning and response (paragraph (n) of this section) and compliance audits (paragraph (o) of this section) without regard to possible trade secret status of such information.

(2) Nothing in this paragraph shall preclude the employer from requiring the persons to whom the information is made available under paragraph (p)(1) of this section to enter into confidentiality agreements not to disclose the information as set forth in 29 CFR 1926.59.

(3) Subject to the rules and procedures set forth in 29 CFR 1926.59(i) (1) through (12), employees and their designated representatives shall have access to trade secret information contained within the process hazard analysis and other documents required to be developed by this standard.

Appendix A to 1926.64—List of Highly Hazardous Chemicals, Toxics and Reactives (Mandatory)

This Appendix contains a listing of toxic and reactive highly hazardous chemicals which present a potential for a catastrophic event at or above the threshold quantity.

Chemical Name	CAS*	TQ**
Acetaldehyde	75-07-0	2500
Acrolein (2-Propenal)	107-02-8	150
Acrylyl Chloride	814-68-6	250
Allyl Chloride	107-05-1	1000
Allylamine	107-11-9	1000
Alkylaluminums	Varies	5000
Ammonia, Anhydrous	7664-41-7	10000
Ammonia solutions (greater than 44% ammonia by weight)	7664-41-7	15000
Ammonium Perchlorate	7790-98-9	500
Ammonium Permanganate	7787-36-2	7500
Arsine (also called Arsenic Hydride)	7784-42-1	100
Bis(Chloromethyl) Ether	542-88-1	100
Boron Trichloride	10294-34-5	2500
Boron Trifluoride	7637-07-2	250
Bromine	7726-95-6	1500
Bromine Chloride	13863-41-7	1500
Bromine Pentafluoride	7789-30-2	2500
Bromine Trifluoride	7787-71-5	15000
3-Bromopropyne (also called Propargyl Bromide)	106-96-7	100
Butyl Hydroperoxide (Tertiary)	75-91-2	5000
Butyl Perbenzoate (Tertiary)	614-45-9	7500
Carbonyl Chloride (see Phosgene)	75-44-5	100
* Carbonyl Fluoride	353-50-4	2500
Cellulose Nitrate (concentration greater than 12.6% nitrogen	9004-70-0	2500
Chlorine	7782-50-5	1500
Chlorine Dioxide	10049-04-4	1000
Chlorine Pentrafluoride	13637-63-3	1000
Chlorine Trifluoride	7790-91-2	1000
Chlorodiethylaluminum (also called Diethylaluminum Chloride)	96-10-6	5000
1-Chloro-2,4-Dinitrobenzene	97-00-7	5000
Chloromethyl Methyl Ether	107-30-2	500
Chloropicrin	76-06-2	500
Chloropicrin and Methyl Bromide mixture	None	1500
Chloropicrin and Methyl Chloride mixture	None	1500
Cumene Hydroperoxide	80-15-9	5000
Cyanogen	460-19-5	2500
Cyanogen Chloride	506-77-4	500
Cyanuric Fluoride	675-14-9	100
Diacetyl Peroxide (concentration greater than 70%)	110-22-5	5000
Diazomethane	534-88-3	500
Dibenzoyl Peroxide	94-36-0	7500
Diborane	19287-45-7	100
Dibutyl Peroxide (Tertiary)	110-05-4	5000
Dichloro Acetylene	7572-29-4	250
Dichlorosilane	4109-96-0	2500
Diethylzinc	557-20-0	10000
Diisopropyl Peroxydicarbonate	105-64-6	7500
Dilauroyl Peroxide	105-74-8	7500
Dimethyldichlorosilane	75-78-5	1000
Dimethylhydrazine, 1,1-	57-14-7	1000
Dimethylamine, Anhydrous	124-40-3	2500
2,4-Dinitroaniline	97-02-9	5000
Ethyl Methyl Ketone Peroxide (also Methyl Ethyl Ketone Peroxide (concentration greater than 60%)	1338-23-4	5000
Ethyl Nitrite	109-95-5	5000
Ethylamine	75-04-7	7500
Ethylene Fluorohydrin	371-62-0	100
Ethylene Oxide	75-21-8	5000
Ethyleneimine	151-56-4	1000
Fluorine	7782-41-4	1000
Formaldehyde (Formalin)	50-00-0	1000
Furan	110-00-9	500
Hexafluoroacetone	684-16-2	5000
Hydrochloric Acid, Anhydrous	7647-01-0	5000
Hydrofluoric Acid, Anhydrous	7664-39-3	1000
Hydrogen Bromide	10035-10-6	5000
Hydrogen Chloride	7647-01-0	5000
Hydrogen Cyanide, Anhydrous	74-90-8	1000
Hydrogen Fluoride	7664-39-3	1000
Hydrogen Peroxide (52% by weight or greater)	7722-84-1	7500
Hydrogen Selenide	7783-07-5	150
Hydrogen Sulfide	7783-06-4	1500
Hydroxylamine	7803-49-8	2500
Iron, Pentacarbonyl	13463-40-6	250
Isopropylamine	75-31-0	5000
Ketene	463-51-4	100
Methacrylaldehyde	78-85-3	1000
Methacryloyl Chloride	920-46-7	150
Methacryloyloxyethyl Isocyanate	30674-80-7	100
Methyl Acrylonitrile	126-98-7	250
Methylamine, Anhydrous	74-89-5	1000
Methyl Bromide	74-83-9	2500
Methyl Chloride	74-87-3	15000
Methyl Chloroformate	79-22-1	500
Methyl Ethyl Ketone Peroxide (concentration greater than 60%)	1338-23-4	5000

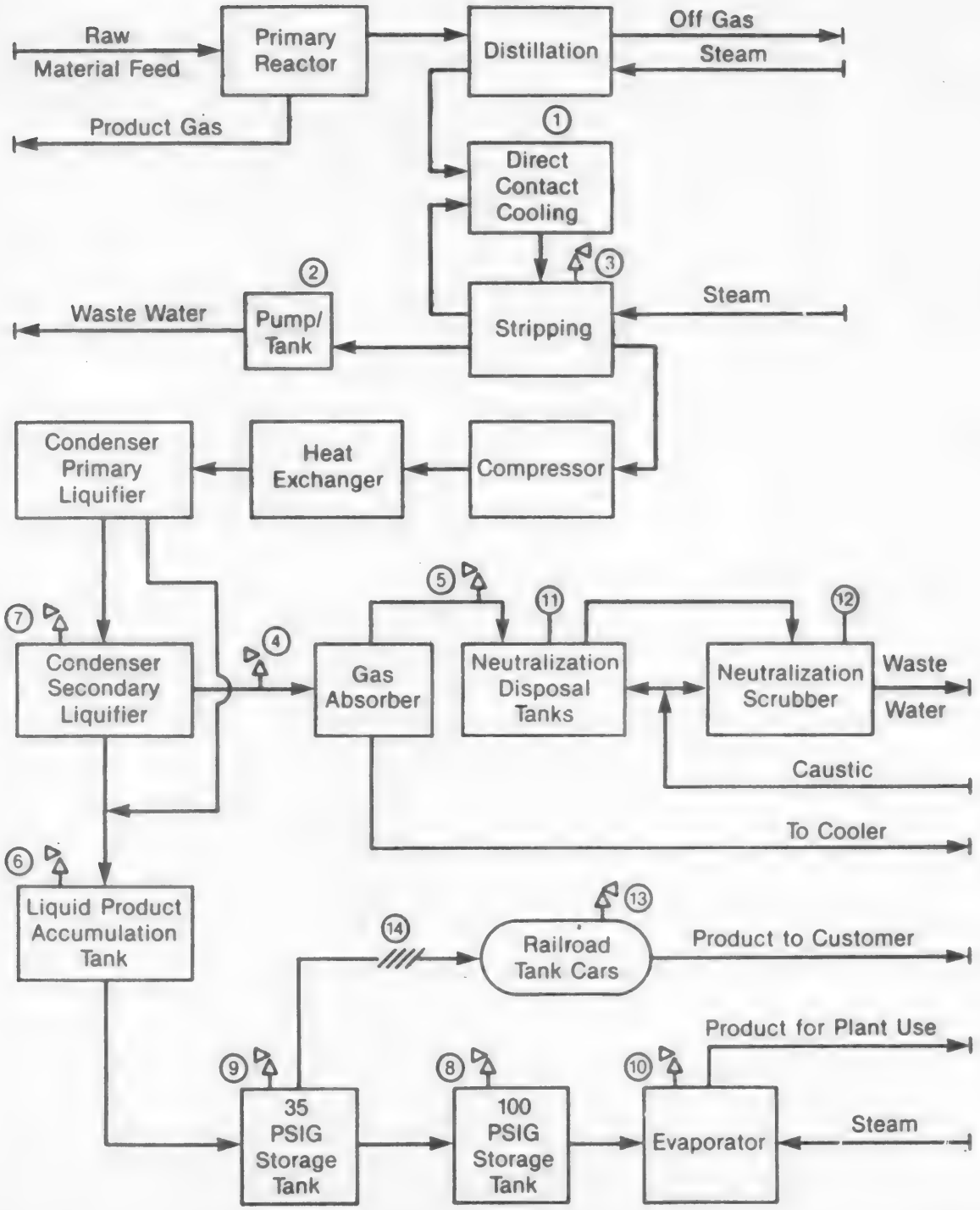
Chemical Name	CAS*	TQ**
Methyl Fluoroacetate	453-18-9	100
Methyl Fluorosulfate	421-20-5	100
Methyl Hydrazine	60-34-4	100
Methyl Iodide	74-88-4	7500
Methyl Isocyanate	624-83-9	250
Methyl Mercaptan	74-93-1	5000
Methyl Vinyl Ketone	79-84-4	100
Methyltrichlorosilane	75-79-6	500
Nickel Carbonly (Nickel Tetracarbonyl)	13463-39-3	150
Nitric Acid (94.5% by weight or greater)	7697-37-2	500
Nitric Oxide	10102-43-9	250
Nitroaniline (para Nitroaniline	100-01-6	5000
Nitromethane	75-52-5	2500
Nitrogen Dioxide	10102-44-0	250
Nitrogen Oxides (NO; NO(2); N2O4; N2O3)	10102-44-0	250
Nitrogen Tetroxide (also called Nitrogen Peroxide)	10544-72-6	250
Nitrogen Trifluoride	7783-54-2	5000
Nitrogen Trioxide	10544-73-7	250
Oleum (65% to 80% by weight; also called Fuming Sulfuric Acid)	8014-94-7	1000
Osmium Tetroxide	20816-12-0	100
Oxygen Difluoride (Fluorine Monoxide)	7783-41-7	100
Ozone	10028-15-6	100
Pentaborane	19624-22-7	100
Peracetic Acid (concentration greater 60% Acetic Acid; also called Peroxyacetic Acid)	79-21-0	1000
Perchloric Acid (concentration greater than 60% by weight)	7601-90-3	5000
Perchloromethyl Mercaptan	594-42-3	150
Perchloryl Fluoride	7616-94-6	5000
Peroxyacetic Acid (concentration greater than 60% Acetic Acid; also called Peracetic Acid)	79-21-0	1000
Phosgene (also called Carbonyl Chloride)	75-44-5	100
Phosphine (Hydrogen Phosphide)	7803-51-2	100
Phosphorus Oxychloride (also called Phosphoryl Chloride)	10025-87-3	1000
Phosphorus Trichloride	7719-12-2	1000
Phosphoryl Chloride (also called Phosphorus Oxychloride)	10025-87-3	1000
Propargyl Bromide	106-96-7	100
Propyl Nitrate	627-3-4	2500
Sarin	107-44-8	100
Selenium Hexafluoride	7783-79-1	1000
Stibine (Antimony Hydride)	7803-52-3	500
Sulfur Dioxide (liquid)	7446-09-5	1000
Sulfur Pentafluoride	5714-22-7	250
Sulfur Tetrafluoride	7783-60-0	250
Sulfur Trioxide (also called Sulfuric Anhydride)	7446-11-9	1000
Sulfuric Anhydride (also called Sulfur Trioxide)	7446-11-9	1000
Tellurium Hexafluoride	7783-80-4	250
Tetrafluoroethylene	116-14-3	5000
Tetrafluorohydrazine	10036-47-2	5000
Tetramethyl Lead	75-74-1	1000
Thionyl Chloride	7719-09-7	250
Trichloro (chloromethyl) Silane	1558-25-4	100
Trichloro (dichlorophenyl) Silane	27137-85-5	2500
Trichlorosilane	10025-78-2	5000
Trifluorochloroethylene	79-38-9	10000
Trimethyoxysilane	2487-90-3	1500

* Chemical Abstract Service Number

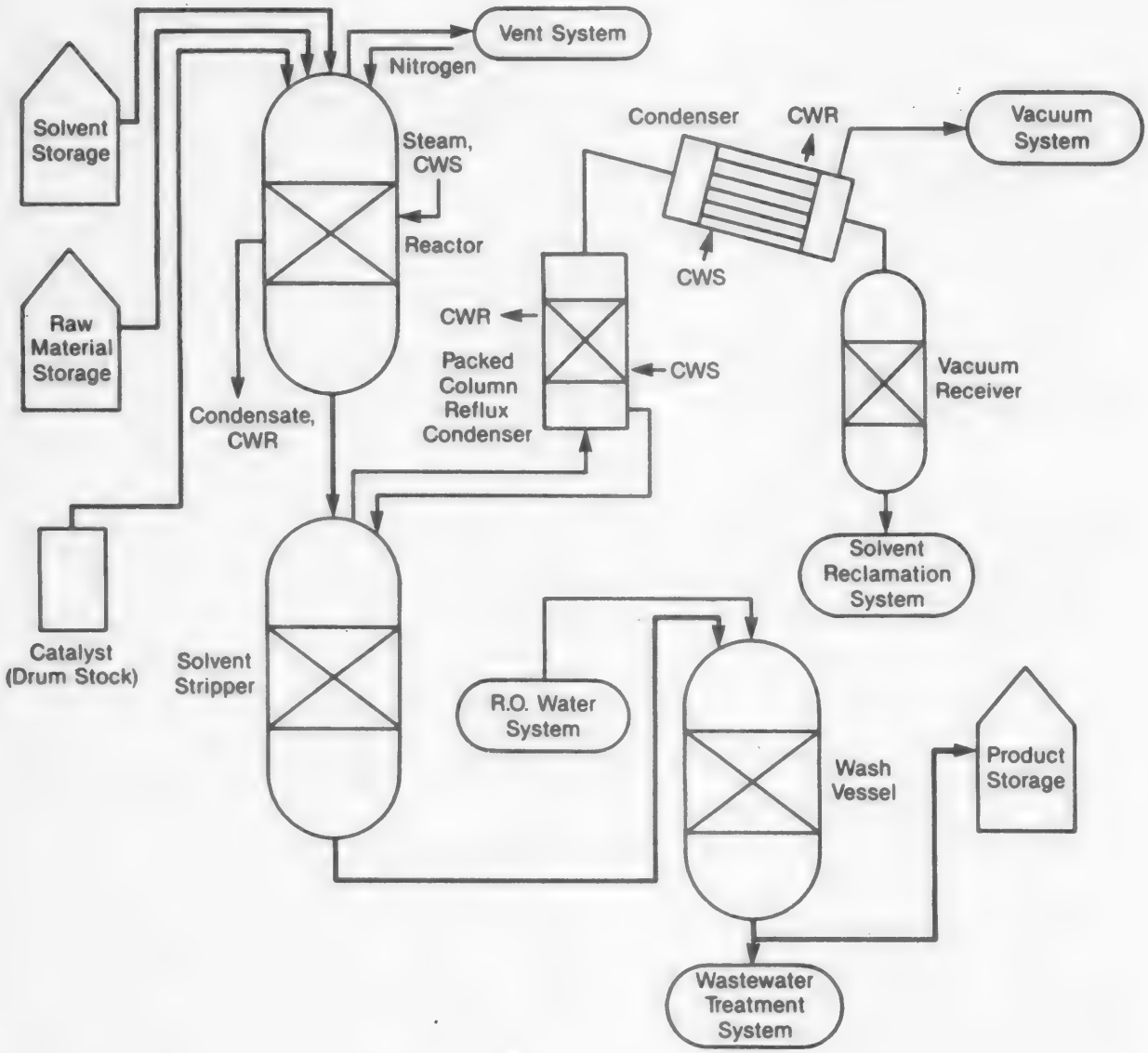
** Threshold Quantity in Pounds (Amount necessary to be covered by this standard.)

Appendix B to § 1926.64—Block Flow Diagram and Simplified Process Flow Diagram (Nonmandatory)

Example of a Block Flow Diagram



Example of a Process Flow Diagram



Appendix C to § 1926.64—Compliance Guidelines and Recommendations for Process Safety Management (Nonmandatory)

This appendix serves as a nonmandatory guideline to assist employers and employees in complying with the requirements of this section, as well as provides other helpful recommendations and information. Examples presented in this appendix are not the only means of achieving the performance goals in the standard. This appendix neither adds nor detracts from the requirements of the standard.

1. *Introduction to Process Safety Management.* The major objective of process safety management of highly hazardous chemicals is to prevent unwanted releases of hazardous chemicals especially into locations which could expose employees and others to serious hazards. An effective process safety management program requires a systematic approach to evaluating the whole process. Using this approach the process design, process technology, operational and maintenance activities and procedures, nonroutine activities and procedures, emergency preparedness plans and procedures, training programs, and other elements which impact the process are all considered in the evaluation. The various lines of defense that have been incorporated into the design and operation of the process to prevent or mitigate the release of hazardous chemicals need to be evaluated and strengthened to assure their effectiveness at each level. Process safety management is the proactive identification, evaluation and mitigation or prevention of chemical releases that could occur as a result of failures in process, procedures or equipment.

The process safety management standard targets highly hazardous chemicals that have the potential to cause a catastrophic incident. This standard as a whole is to aid employers in their efforts to prevent or mitigate episodic chemical releases that could lead to a catastrophe in the workplace and possibly to the surrounding community. To control these types of hazards, employers need to develop the necessary expertise, experiences, judgement and proactive initiative within their workforce to properly implement and maintain an effective process safety management program as envisioned in the OSHA standard. This OSHA standard is required by the Clean Air Act Amendments as is the Environmental Protection Agency's Risk Management Plan. Employers, who merge the two sets of requirements into their process safety management program, will better assure full compliance with each as well as enhancing their relationship with the local community.

While OSHA believes process safety management will have a positive effect on the safety of employees in workplaces and also offers other potential benefits to employers (increased productivity), smaller businesses which may have limited resources available to them at this time, might consider alternative avenues of decreasing the risks associated with highly hazardous chemicals at their workplaces. One method which might be considered is the reduction in the inventory of the highly hazardous chemical. This reduction in inventory will result in a reduction of the risk or potential for a catastrophic incident. Also, employers including small employers may be able to establish more efficient inventory control by reducing the quantities of highly hazardous chemicals on site below the established threshold quantities. This reduction can be accomplished by ordering smaller shipments and maintaining the minimum inventory necessary for efficient and safe operation. When reduced inventory is not feasible, then the employer might consider dispersing inventory to several locations on site. Dispersing storage into locations where a release in one location will not cause a release in another location is a practical method to also reduce the risk or potential for catastrophic incidents.

2. *Employee Involvement in Process Safety Management.* Section 304 of the Clean Air Act Amendments states that employers are to consult with their employees and their representatives regarding the employers efforts in the development and implementation of the process safety management program elements and hazard assessments. Section 304 also requires employers to train and educate their employees and to inform affected employees of the findings from incident investigations required by the process safety management program. Many employers, under their safety and health programs, have already established means and methods to keep employees and their representatives informed about relevant safety and health issues and employers may be able to adapt these practices and procedures to meet their obligations under this standard. Employers who have not implemented an occupational safety and health program may wish to form a safety and health committee of employees and management representatives to help the employer meet the obligations specified by this standard. These committees can become a significant ally in helping the employer to implement and maintain an effective process safety management program for all employees.

3. *Process Safety Information.* Complete and accurate written information concerning process chemicals, process technology, and process equipment is essential to an effective process safety management program and to a process hazards analysis. The compiled information will be a necessary resource to a variety of users including the team that will perform the process hazards analysis as required under paragraph (e); those developing the training programs and the operating procedures; contractors whose employees will be working with the process; those conducting the pre-startup reviews; local emergency preparedness planners; and insurance and enforcement officials.

The information to be compiled about the chemicals, including process intermediates, needs to be comprehensive enough for an accurate assessment of the fire and explosion characteristics, reactivity hazards, the safety and health hazards to workers, and the corrosion and erosion effects on the process equipment and monitoring tools. Current material safety data sheet (MSDS) information can be used to help meet this requirement which must be supplemented with process chemistry information including runaway reaction and over pressure hazards if applicable.

Process technology information will be a part of the process safety information package and it is expected that it will include diagrams of the type shown in Appendix B of this section as well as employer established criteria for maximum inventory levels for process chemicals; limits beyond which would be considered upset conditions; and a qualitative estimate of the consequences or results of deviation that could occur if operating beyond the established process limits. Employers are encouraged to use diagrams which will help users understand the process.

A block flow diagram is used to show the major process equipment and interconnecting process flow lines and show flow rates, stream composition, temperatures, and pressures when necessary for clarity. The block flow diagram is a simplified diagram.

Process flow diagrams are more complex and will show all main flow streams including valves to enhance the understanding of the process, as well as pressures and temperatures on all feed and product lines within all major vessels, in and out of headers and heat exchangers, and points of pressure and temperature control. Also, materials of construction information, pump capacities and pressure heads, compressor horsepower and vessel design pressures and temperatures are shown when necessary for clarity. In addition, major components of control loops are usually shown along with key utilities on process flow diagrams.

Piping and instrument diagrams (P&Ids) may be the more appropriate type of diagrams to show some of the above details and to display the information for the piping designer and engineering staff. The P&IDs are to be used to describe the relationships between equipment and instrumentation as well as other relevant information that will enhance clarity. Computer software programs which do P&Ids or other diagrams useful to the information package, may be used to help meet this requirement.

The information pertaining to process equipment design must be documented. In other words, what were the codes and standards relied on to establish good engineering practice. These codes and standards are published by such organizations as the American Society of Mechanical Engineers, American Petroleum Institute, American National Standards Institute, National Fire Protection Association, American Society for Testing and Materials, National Board of Boiler and Pressure Vessel Inspectors, National Association of Corrosion Engineers, American Society of Exchange Manufacturers Association, and model building code groups.

In addition, various engineering societies issue technical reports which impact process design. For example, the American Institute of Chemical Engineers has published technical reports on topics such as two phase flow for venting devices. This type of technically recognized report would constitute good engineering practice.

For existing equipment designed and constructed many years ago in accordance with the codes and standards available at that time and no longer in general use today, the employer must document which codes and standards were used and that the design and construction along with the testing, inspection and operation are still suitable for the intended use. Where the process technology requires a design which departs from the applicable codes and standards, the employer must document that the design and construction is suitable for the intended purpose.

4. *Process Hazard Analysis.* A process hazard analysis (PHA), sometimes called a process hazard evaluation, is one of the most important elements of the process safety management program. A PHA is an organized and systematic effort to identify and analyze the significance of potential hazards associated with the processing or handling of highly hazardous chemicals. A PHA provides information which will assist employers and employees in making decisions for improving safety and reducing the consequences of unwanted or unplanned releases of hazardous chemicals. A PHA is directed toward analyzing potential causes and consequences of fires, explosions, releases of toxic or flammable chemicals and major spills of hazardous chemicals. The PHA focuses on equipment, instrumentation, utilities, human actions (routine and nonroutine), and external factors that might impact the process. These considerations assist in determining the hazards and potential failure points or failure modes in a process.

The selection of a PHA methodology or technique will be influenced by many factors including the amount of existing knowledge about the process. Is it a process that has been operated for a long period of time with little or no innovation and extensive experience has been generated with its use? Or, is it a new process or one which has been changed frequently by the inclusion of innovative features? Also, the size and complexity of the process will influence the decision as to the appropriate PHA methodology to use. All PHA methodologies are subject to certain limitations. For example, the checklist methodology works well when the process is very stable and no changes are made, but it is not as effective when the process has undergone extensive change. The checklist may miss the most recent changes and consequently the changes would not be evaluated. Another limitation to be considered concerns the assumptions made by the team or analyst. The PHA is dependent on good judgement and the assumptions made during the study need to be documented and understood by the team and reviewer and kept for a future PHA.

The team conducting the PHA need to understand the methodology that is going to be used. A PHA team can vary in size from two people to a number of people with varied operational and technical backgrounds. Some team members may only be a part of the team for a limited time. The team leader needs to be fully knowledgeable in the proper implementation of the PHA methodology that is to be used and should be impartial in the evaluation. The other full or part time team members need to provide the team with expertise in areas such as process technology, process design, operating procedures and practices, including how the work is actually performed, alarms, emergency procedures, instrumentation, maintenance procedures, both routine and nonroutine tasks, including how the tasks are authorized, procurement of parts and supplies, safety and health, and any other relevant subject as the need dictates. At least one team member must be familiar with the process.

The ideal team will have an intimate knowledge of the standards, codes, specifications and regulations applicable to the process being studied. The selected team members need to be compatible and the team leader needs to be able to manage the team and the PHA study. The team needs to be able to work together while benefiting from the expertise of others on the team or outside the team, to resolve issues, and to forge a consensus on the findings of the study and the recommendations.

The application of a PHA to a process may involve the use of different methodologies for various parts of the process. For example, a process involving a series of unit operations of varying sizes, complexities, and ages may use different methodologies and team members for each operation. Then the conclusions can be integrated into one final study and evaluation. A more specific example is the use of a checklist PHA for a standard boiler or heat exchanger and the use of a Hazard and Operability PHA for the overall process. Also, for batch type processes like custom batch operations, a generic PHA of a representative batch may be used where there are only small changes of monomer or other ingredient ratios and the chemistry is documented for the full range and ratio of batch ingredients. Another process that might consider using a generic type of PHA is a gas plant. Often these plants are simply moved from site to site and therefore, a generic PHA may be used for these movable plants. Also, when an employer has several similar size gas plants and no sour gas is being processed at the site, then a generic PHA is feasible as long as the variations of the individual sites are accounted for in the PHA. Finally, when an employer has a large continuous process which has several control rooms for different portions of the process such as for a distillation tower and a blending operation, the employer may wish to do each segment separately and then integrate the final results.

Additionally, small businesses which are covered by this rule, will often have processes that have less storage volume, less capacity, and less complicated than processes at a large facility. Therefore, OSHA would anticipate that the less complex methodologies would be used to meet the process hazard analysis criteria in the standard. These process hazard analyses can be done in less time and with a few people being involved. A less complex process generally means that less data, P&IDs, and process information is needed to perform a process hazard analysis.

Many small businesses have processes that are not unique, such as cold storage lockers or water treatment facilities. Where employer associations have a number of members with such facilities, a generic PHA, evolved from a checklist or what-if questions, could be developed and used by each employer effectively to reflect his/her particular process; this would simplify compliance for them.

When the employer has a number of processes which require a PHA, the employer must set up a priority system of which PHAs to conduct first. A preliminary or gross hazard analysis may be useful in prioritizing the processes that the employer has determined are subject to coverage by the process safety management standard. Consideration should first be given to those processes with the potential of adversely affecting the largest number of employees. This prioritizing should consider the potential severity of a chemical release, the number of potentially affected employees, the operating history of the process such as the frequency of chemical releases, the age of the process and any other relevant factors. These factors would suggest a ranking order and would suggest either using a weighing factor system or a systematic ranking method. The use of a preliminary hazard analysis would assist an employer in determining which process should be of the highest priority and thereby the employer would obtain the greatest improvement in safety at the facility.

Detailed guidance on the content and application of process hazard analysis methodologies is available from the American Institute of Chemical Engineers' Center for Chemical Process Safety (see Appendix D).

5. *Operating Procedures and Practices.* Operating procedures describe tasks to be performed, data to be recorded, operating conditions to be maintained, samples to be collected, and safety and health precautions to be taken. The procedures need to be technically accurate, understandable to employees, and revised periodically to ensure that they reflect current operations. The process safety information package is to be used as a resource to better assure that the operating procedures and practices are consistent with the known hazards of the chemicals in the process and that the operating parameters are accurate. Operating procedures should be reviewed by engineering staff and operating personnel to ensure that they are accurate and provide practical instructions on how to actually carry out job duties safely.

Operating procedures will include specific instructions or details on what steps are to be taken or followed in carrying out the stated procedures. These operating instructions for each procedure should include the applicable safety precautions and should contain appropriate information on safety implications. For example, the operating procedures addressing operating parameters will contain operating instructions about pressure limits, temperature ranges, flow rates, what to do when an upset condition occurs, what alarms and instruments are pertinent if an upset condition occurs, and other subjects. Another example of using operating instructions to

properly implement operating procedures is in starting up or shutting down the process. In these cases, different parameters will be required from those of normal operation. These operating instructions need to clearly indicate the distinctions between startup and normal operations such as the appropriate allowances for heating up a unit to reach the normal operating parameters. Also the operating instructions need to describe the proper method for increasing the temperature of the unit until the normal operating temperature parameters are achieved.

Computerized process control systems add complexity to operating instructions. These operating instructions need to describe the logic of the software as well as the relationship between the equipment and the control system; otherwise, it may not be apparent to the operator.

Operating procedures and instructions are important for training operating personnel. The operating procedures are often viewed as the standard operating practices (SOPs) for operations. Control room personnel and operating staff, in general, need to have a full understanding of operating procedures. If workers are not fluent in English then procedures and instructions need to be prepared in a second language understood by the workers. In addition, operating procedures need to be changed when there is a change in the process as a result of the management of change procedures. The consequences of operating procedure changes need to be fully evaluated and the information conveyed to the personnel. For example, mechanical changes to the process made by the maintenance department (like changing a valve from steel to brass or other subtle changes) need to be evaluated to determine if operating procedures and practices also need to be changed. All management of change actions must be coordinated and integrated with current operating procedures and operating personnel must be oriented to the changes in procedures before the change is made. When the process is shutdown in order to make a change, then the operating procedures must be updated before startup of the process.

Training in how to handle upset conditions must be accomplished as well as what operating personnel are to do in emergencies such as when a pump seal fails or a pipeline ruptures. Communication between operating personnel and workers performing work within the process area, such as nonroutine tasks, also must be maintained. The hazards of the tasks are to be conveyed to operating personnel in accordance with established procedures and to those performing the actual tasks. When the work is completed, operating personnel should be informed to provide closure on the job.

6. *Employee Training.* All employees, including maintenance and contractor employees, involved with highly hazardous chemicals need to fully understand the safety and health hazards of the chemicals and processes they work with for the protection of themselves, their fellow employees and the citizens of nearby communities. Training conducted in compliance with 1926.59, the Hazard Communication standard, will help employees to be more knowledgeable about the chemicals they work with as well as familiarize them with reading and understanding MSDS. However, additional training in subjects such as operating procedures and safety work practices, emergency evacuation and response, safety procedures, routine and nonroutine work authorization activities, and other areas pertinent to process safety and health will need to be covered by an employer's training program.

In establishing their training programs, employers must clearly define the employees to be trained and what subjects are to be covered in their training. Employers in setting up their training program will need to clearly establish the goals and objectives they wish to achieve with the training that they provide to their employees. The learning goals or objectives should be written in clear measurable terms before the training begins. These goals and objectives need to be tailored to each of the specific training modules or segments. Employers should describe the important actions and conditions under which the employee will demonstrate competence or knowledge as well as what is acceptable performance.

Hands-on-training where employees are able to use their senses beyond listening, will enhance learning. For example, operating personnel, who will work in a control room or at control panels, would benefit by being trained at a simulated control panel or panels. Upset conditions of various types could be displayed on the simulator, and then the employee could go through the proper operating procedures to bring the simulator panel back to the normal operating parameters. A training environment could be created to help the trainee feel the full reality of the situation but, of course, under controlled conditions. This realistic type of training can be very effective in teaching employees correct procedures while allowing them to also see the consequences of what might happens if they do not follow established operating procedures. Other training techniques using videos or on-the-job training can also be very effective for teaching other job tasks, duties, or other important information. An effective training program will allow the employee to fully participate in the training process and to practice their skill or knowledge.

Employers need to periodically evaluate their training programs to see if the necessary skills, knowledge, and routines are being properly understood and implemented by their trained employees. The means or methods for evaluating the training should be developed along with the training program goals and objectives. Training program evaluation will help employers to determine the amount of training their employees understood, and whether the desired results were obtained. If, after the evaluation, it appears that the trained employees are not at the level of knowledge and skill that was expected, the employer will need to revise the training program, provide retraining, or provide more frequent refresher training sessions until the deficiency is resolved. Those who conducted the training and those who received the training should also be consulted as to how best to improve the training process. If there is a language barrier, the language known to the trainees should be used to reinforce the training messages and information.

Careful consideration must be given to assure that employees including maintenance and contract employees receive current and updated training. For example, if changes are made to a process, impacted employees must be trained in the changes and understand the effects of the changes on their job tasks (e.g., any new operating procedures pertinent to their tasks). Additionally, as already discussed the evaluation of the employee's absorption of training will certainly influence the need for training.

7. *Contractors.* Employers who use contractors to perform work in and around processes that involve highly hazardous chemicals, will need to establish a screening process so that they hire and use contractors who accomplish the desired job tasks without compromising the safety and health of employees at a facility. For contractors, whose safety performance on the job is not known to the hiring employer, the employer will need to obtain information on injury and illness rates and experience and should obtain contractor references. Additionally, the employer must assure that the contractor has the appropriate job skills, knowledge and certifications (such as for pressure vessel welders). Contractor work methods and experiences should be evaluated. For example, does the contractor conducting demolition work swing loads over operating processes or does the contractor avoid such hazards?

Maintaining a site injury and illness log for contractors is another method employers must use to track and maintain current knowledge of work activities involving contract employees working on or adjacent to covered processes. Injury and illness logs of both the employer's employees and contract employees allow an employer to have full knowledge of process injury and illness experience. This log will also contain information which will be of use to those auditing process safety management compliance and those involved in incident investigations.

Contract employees must perform their work safely. Considering that contractors often perform very specialized and potentially hazardous tasks such as confined space entry activities and nonroutine repair activities it is quite important that their activities be controlled while they are working on or near a covered process. A permit system or work authorization system for these activities would also be helpful to all affected employers. The use of a work authorization system keeps an employer informed of contract employee activities, and as a benefit the employer will have better coordination and more management control over the work being performed in the process area. A well run and well maintained process where employee safety is fully recognized will benefit all of those who work in the facility whether they be contract employees or employees of the owner.

8. *Pre-Startup Safety.* For new processes, the employer will find a PHA helpful in improving the design and construction of the

process from a reliability and quality point of view. The safe operation of the new process will be enhanced by making use of the PHA recommendations before final installations are completed. P&IDs are to be completed along with having the operating procedures in place and the operating staff trained to run the process before startup. The initial startup procedures and normal operating procedures need to be fully evaluated as part of the pre-startup review to assure a safe transfer into the normal operating mode for meeting the process parameters.

For existing processes that have been shutdown for turnaround, or modification, etc., the employer must assure that any changes other than "replacement in kind" made to the process during shutdown go through the management of change procedures. P&IDs will need to be updated as necessary, as well as operating procedures and instructions. If the changes made to the process during shutdown are significant and impact the training program, then operating personnel as well as employees engaged in routine and nonroutine work in the process area may need some refresher or additional training in light of the changes. Any incident investigation recommendations, compliance audits or PHA recommendations need to be reviewed as well to see what impacts they may have on the process before beginning the startup.

9. *Mechanical Integrity.* Employers will need to review their maintenance programs and schedules to see if there are areas where "breakdown" maintenance is used rather than an on-going mechanical integrity program. Equipment used to process, store, or handle highly hazardous chemicals needs to be designed, constructed, installed and maintained to minimize the risk of releases of such chemicals. This requires that a mechanical integrity program be in place to assure the continued integrity of process equipment. Elements of a mechanical integrity program include the identification and categorization of equipment and instrumentation, inspections and tests, testing and inspection frequencies, development of maintenance procedures, training of maintenance personnel, the establishment of criteria for acceptable test results, documentation of test and inspection results, and documentation of manufacturer recommendations as to meantime to failure for equipment and instrumentation.

The first line of defense an employer has available is to operate and maintain the process as designed, and to keep the chemicals contained. This line of defense is backed up by the next line of defense which is the controlled release of chemicals through venting to scrubbers or flares, or to surge or overflow tanks which are designed to receive such chemicals, etc. These lines of defense are the primary lines of defense or means to prevent unwanted releases. The secondary lines of defense would include fixed fire protection systems like sprinklers, water spray, or deluge systems, monitor guns, etc., dikes, designed drainage systems, and other systems which would control or mitigate hazardous chemicals once an unwanted release occurs. These primary and secondary lines of defense are what the mechanical integrity program needs to protect and strengthen these primary and secondary lines of defenses where appropriate.

The first step of an effective mechanical integrity program is to compile and categorize a list of process equipment and instrumentation for inclusion in the program. This list would include pressure vessels, storage tanks, process piping, relief and vent systems, fire protection system components, emergency shutdown systems and alarms and interlocks and pumps. For the categorization of instrumentation and the listed equipment the employer would prioritize which pieces of equipment require closer scrutiny than others. Meantime to failure of various instrumentation and equipment parts would be known from the manufacturers data or the employer's experience with the parts, which would then influence the inspection and testing frequency and associated procedures. Also, applicable codes and standards such as the National Board Inspection Code, or those from the American Society for Testing and Material, American Petroleum Institute, National Fire Protection Association, American National Standards Institute, American Society of Mechanical Engineers, and other groups, provide information to help establish an effective testing and inspection frequency, as well as appropriate methodologies.

The applicable codes and standards provide criteria for external inspections for such items as foundation and supports, anchor bolts, concrete or steel supports, guy wires, nozzles and sprinklers, pipe hangers, grounding connections, protective coatings and insulation, and external metal surfaces of piping and vessels, etc. These codes and standards also provide information on methodologies for internal inspection, and a frequency formula based on the corrosion rate of the materials of construction. Also, erosion both internal and external needs to be considered along with corrosion effects for piping and valves. Where the corrosion rate is not known, a maximum inspection frequency is recommended, and methods of developing the corrosion rate are available in the codes. Internal inspections need to cover items such as vessel shell, bottom and head; metallic linings; nonmetallic linings; thickness measurements for vessels and piping; inspection for erosion, corrosion, cracking and bulges; internal equipment like trays, baffles, sensors and screens for erosion, corrosion or cracking and other deficiencies. Some of these inspections may be performed by state or local government inspectors under state and local statutes. However, each employer needs to develop procedures to ensure that tests and inspections are conducted properly and that consistency is maintained even where different employees may be involved. Appropriate training is to be provided to maintenance personnel to ensure that they understand the preventive maintenance program procedures, safe practices, and the proper use and application of special equipment or unique tools that may be required. This training is part of the overall training program called for in the standard.

A quality assurance system is needed to help ensure that the proper materials of construction are used, that fabrication and inspection procedures are proper, and that installation procedures recognize field installation concerns. The quality assurance program is an essential part of the mechanical integrity program and will help to maintain the primary and secondary lines of defense that have been designed into the process to prevent unwanted chemical releases or those which control or mitigate a release. "As built" drawings, together with certifications of coded vessels and other equipment, and materials of construction need to be verified and retained in the quality assurance documentation. Equipment installation jobs need to be properly inspected in the field for use of proper materials and procedures and to assure that qualified craftsmen are used to do the job. The use of appropriate gaskets, packing, bolts, valves, lubricants and welding rods need to be verified in the field. Also, procedures for installation of safety devices need to be verified, such as the torque on the bolts on ruptured disc installations, uniform torque on flange bolts, proper installation of pump seals, etc. If the quality of parts is a problem, it may be appropriate to conduct audits of the equipment supplier's facilities to better assure proper purchases of required equipment which is suitable for its intended service. Any changes in equipment that may become necessary will need to go through the management of change procedures.

10. *Nonroutine Work Authorizations.* Nonroutine work which is conducted in process areas needs to be controlled by the employer in a consistent manner. The hazards identified involving the work that is to be accomplished must be communicated to those doing the work, but also to those operating personnel whose work could affect the safety of the process. A work authorization notice or permit must have a procedure that describes the steps the maintenance supervisor, contractor representative or other person needs to follow to obtain the necessary clearance to get the job started. The work authorization procedures need to reference and coordinate, as applicable, lockout/tagout procedures, line breaking procedures, confined space entry procedures and hot work authorizations. This procedure also needs to provide clear steps to follow once the job is completed in order to provide closure for those that need to know the job is now completed and equipment can be returned to normal.

11. *Managing Change.* To properly manage changes to process chemicals, technology, equipment and facilities, one must define what is meant by change. In this process safety management standard, change includes all modifications to equipment, procedures, raw materials and processing conditions other than "replacement in kind." These changes need to be properly managed by identifying and reviewing them prior to implementation of the change. For example, the operating procedures contain the operating parameters (pressure limits, temperature ranges, flow rates, etc.) and the importance of operating within these limits. While the operator must have the flexibility to maintain safe operation within the established parameters, any operation

outside of these parameters requires review and approval by a written management of change procedure.

Management of change covers such as changes in process technology and changes to equipment and instrumentation. Changes in process technology can result from changes in production rates, raw materials, experimentation, equipment unavailability, new equipment, new product development, change in catalyst and changes in operating conditions to improve yield or quality. Equipment changes include among others change in materials of construction, equipment specifications, piping pre-arrangements, experimental equipment, computer program revisions and changes in alarms and interlocks. Employers need to establish means and methods to detect both technical changes and mechanical changes.

Temporary changes have caused a number of catastrophes over the years, and employers need to establish ways to detect temporary changes as well as those that are permanent. It is important that a time limit for temporary changes be established and monitored since, without control, these changes may tend to become permanent. Temporary changes are subject to the management of change provisions. In addition, the management of change procedures are used to insure that the equipment and procedures are returned to their original or designed conditions at the end of the temporary change. Proper documentation and review of these changes is invaluable in assuring that the safety and health considerations are being incorporated into the operating procedures and the process.

Employers may wish to develop a form or clearance sheet to facilitate the processing of changes through the management of change procedures. A typical change form may include a description and the purpose of the change, the technical basis for the change, safety and health considerations, documentation of changes for the operating procedures, maintenance procedures, inspection and testing, P&IDs, electrical classification, training and communications, pre-startup inspection, duration if a temporary change, approvals and authorization. Where the impact of the change is minor and well understood, a check list reviewed by an authorized person with proper communication to others who are affected may be sufficient. However, for a more complex or significant design change, a hazard evaluation procedure with approvals by operations, maintenance, and safety departments may be appropriate. Changes in documents such as P&IDs, raw materials, operating procedures, mechanical integrity programs, electrical classifications, etc., need to be noted so that these revisions can be made permanent when the drawings and procedure manuals are updated. Copies of process changes need to be kept in an accessible location to ensure that design changes are available to operating personnel as well as to PHA team members when a PHA is being done or one is being updated.

12. *Investigation of Incidents.* Incident investigation is the process of identifying the underlying causes of incidents and implementing steps to prevent similar events from occurring. The intent of an incident investigation is for employers to learn from past experiences and thus avoid repeating past mistakes. The incidents for which OSHA expects employers to become aware and to investigate are the types of events which result in or could reasonably have resulted in a catastrophic release. Some of the events are sometimes referred to as "near misses," meaning that a serious consequence did not occur, but could have.

Employers need to develop in-house capability to investigate incidents that occur in their facilities. A team needs to be assembled by the employer and trained in the techniques of investigation including how to conduct interviews of witnesses, needed documentation and report writing. A multi-disciplinary team is better able to gather the facts of the event and to analyze them and develop plausible scenarios as to what happened, and why. Team members should be selected on the basis of their training, knowledge and ability to contribute to a team effort to fully investigate the incident. Employees in the process area where the incident occurred should be consulted, interviewed or made a member of the team. Their knowledge of the events form a significant set of facts about the incident which occurred. The report, its findings and recommendations are to be shared with those who can benefit from the information. The cooperation of employees is essential to an effective incident investigation. The focus of the investigation should be to obtain facts, and not to place blame. The team and the investigation process should clearly deal with all involved individuals in a fair, open and consistent manner.

13. *Emergency Preparedness.* Each employer must address what actions employees are to take when there is an unwanted release of highly hazardous chemicals. Emergency preparedness or the employer's tertiary (third) lines of defense are those that will be relied on along with the secondary lines of defense when the primary lines of defense which are used to prevent an unwanted release fail to stop the release. Employers will need to decide if they want employees to handle and stop small or minor incidental releases. Whether they wish to mobilize the available resources at the plant and have them brought to bear on a more significant release. Or whether employers want their employees to evacuate the danger area and promptly escape to a preplanned safe zone area, and allow the local community emergency response organizations to handle the release. Or whether the employer wants to use some combination of these actions. Employers will need to select how many different emergency preparedness or tertiary lines of defense they plan to have and then develop the necessary plans and procedures, and appropriately train employees in their emergency duties and responsibilities and then implement these lines of defense.

Employers at a minimum must have an emergency action plan which will facilitate the prompt evacuation of employees when an unwanted release of highly hazardous chemical. This means that the employer will have a plan that will be activated by an alarm system to alert employees when to evacuate and, that employees who are physically impaired, will have the necessary support and assistance to get them to the safe zone as well. The intent of these requirements is to alert and move employees to a safe zone quickly. Delaying alarms or confusing alarms are to be avoided. The use of process control centers or similar process buildings in the process area as safe areas is discouraged. Recent catastrophes have shown that a large life loss has occurred in these structures because of where they have been sited and because they are not necessarily designed to withstand over-pressures from shockwaves resulting from explosions in the process area.

Unwanted incidental releases of highly hazardous chemicals in the process area must be addressed by the employer as to what actions employees are to take. If the employer wants employees to evacuate the area, then the emergency action plan will be activated. For outdoor processes where wind direction is important for selecting the safe route to a refuge area, the employer should place a wind direction indicator such as a wind sock or pennant at the highest point that can be seen throughout the process area. Employees can move in the direction of cross wind to upwind to gain safe access to the refuge area by knowing the wind direction.

If the employer wants specific employees in the release area to control or stop the minor emergency or incidental release, these actions must be planned for in advance and procedures developed and implemented. Preplanning for handling incidental releases for minor emergencies in the process area needs to be done, appropriate equipment for the hazards must be provided, and training conducted for those employees who will perform the emergency work before they respond to handle an actual release. The employer's training program, including the Hazard Communication standard training is to address the training needs for employees who are expected to handle incidental or minor releases.

Preplanning for releases that are more serious than incidental releases is another important line of defense to be used by the employer. When a serious release of a highly hazardous chemical occurs, the employer through preplanning will have determined in advance what actions employees are to take. The evacuation of the immediate release area and other areas as necessary would be accomplished under the emergency action plan. If the employer wishes to use plant personnel such as a fire brigade, spill control team, a hazardous materials team, or use employees to render aid to those in the immediate release area and control or mitigate the incident, these actions are covered by 1926.65, the Hazardous Waste Operations and Emergency Response (HAZWOPER) standard. If outside assistance is necessary, such as through mutual aid agreements between employers or local government emergency response organizations, these emergency responders are also covered by HAZWOPER. The safety and health protections required for emergency responders are the responsibility of their employers and of the on-scene incident commander.

Responders may be working under very hazardous conditions and therefore the objective is to have them competently led by an on-scene incident commander and the commander's staff, properly equipped to do their assigned work safely, and fully trained to carry out their duties safely before they respond to an emergency. Drills, training exercises, or simulations with the local community emergency response planners and responder organizations is one means to obtain better preparedness. This close cooperation and coordination between plant and local community emergency preparedness managers will also aid the employer in complying with the Environmental Protection Agency's Risk Management Plan criteria.

One effective way for medium to large facilities to enhance coordination and communication during emergencies for on plant operations and with local community organizations is for employers to establish and equip an emergency control center. The emergency control center would be sited in a safe zone area so that it could be occupied throughout the duration of an emergency. The center would serve as the major communication link between the on-scene incident commander and plant or corporate management as well as with the local community officials. The communication equipment in the emergency control center should include a network to receive and transmit information by telephone, radio or other means. It is important to have a backup communication network in case of power failure or one communication means fails. The center should also be equipped with the plant layout and community maps, utility drawings including fire water, emergency lighting, appropriate reference materials such as a government agency notification list, company personnel phone list, SARA Title III reports and material safety data sheets, emergency plans and procedures manual, a listing with the location of emergency response equipment, mutual aid information, and access to meteorological or weather condition data and any dispersion modeling data.

14. *Compliance Audits.* Employers need to select a trained individual or assemble a trained team of people to audit the process safety management system and program. A small process or plant may need only one knowledgeable person to conduct an audit. The audit is to include an evaluation of the design and effectiveness of the process safety management system and a field inspection of the safety and health conditions and practices to verify that the employer's systems are effectively implemented. The audit should be conducted or lead by a person knowledgeable in audit techniques and who is impartial towards the facility or area being audited. The essential elements of an audit program include planning, staffing, conducting the audit, evaluation and corrective action, follow-up and documentation.

Planning in advance is essential to the success of the auditing process. Each employer needs to establish the format, staffing, scheduling and verification methods prior to conducting the audit. The format should be designed to provide the lead auditor with a procedure or checklist which details the requirements of each section of the standard. The names of the audit team members should be listed as part of the format as well. The checklist, if properly designed, could serve as the verification sheet which provides the auditor with the necessary information to expedite the review and assure that no requirements of the standard are omitted. This verification sheet format could also identify those elements that will require evaluation or a response to correct deficiencies. This sheet could also be used for developing the follow-up and documentation requirements.

The selection of effective audit team members is critical to the success of the program. Team members should be chosen for their experience, knowledge, and training and should be familiar with the processes and with auditing techniques, practices and procedures. The size of the team will vary depending on the size and complexity of the process under consideration. For a large, complex, highly instrumented plant, it may be desirable to have team members with expertise in process engineering and design, process chemistry, instrumentation and computer controls, electrical hazards and classifications, safety and health disciplines, maintenance, emergency preparedness, warehousing or shipping, and process safety auditing. The team may use part-time members to provide for the depth of expertise required as well as for what is actually done or followed, compared to what is written.

An effective audit includes a review of the relevant documentation and process safety information, inspection of the physical facilities, and interviews with all levels of plant personnel. Utilizing the audit procedure and checklist developed in the preplanning stage, the audit team can systematically analyze compliance with the provisions of the standard and any other corporate policies that are relevant. For example, the audit team will review all aspects of the training program as part of the overall audit. The team will review the written training program for adequacy of content, frequency of training, effectiveness of training in terms of its goals and objectives as well as to how it fits into meeting the standard's requirements, documentation, etc. Through interviews, the team can determine the employee's knowledge and awareness of the safety procedures, duties, rules, emergency response assignments, etc. During the inspection, the team can observe actual practices such as safety and health policies, procedures, and work authorization practices. This approach enables the team to identify deficiencies and determine where corrective actions or improvements are necessary.

An audit is a technique used to gather sufficient facts and information, including statistical information, to verify compliance with standards. Auditors should select as part of their preplanning a sample size sufficient to give a degree of confidence that the audit reflects the level of compliance with the standard. The audit team, through this systematic analysis, should document areas which require corrective action as well as those areas where the process safety management system is effective and working in an effective manner. This provides a record of the audit procedures and findings, and serves as a baseline of operation data for future audits. It will assist future auditors in determining changes or trends from previous audits.

Corrective action is one of the most important parts of the audit. It includes not only addressing the identified deficiencies, but also planning, followup, and documentation. The corrective action process normally begins with a management review of the audit findings. The purpose of this review is to determine what actions are appropriate, and to establish priorities, timetables, resource allocations and requirements and responsibilities. In some cases, corrective action may involve a simple change in procedure or minor maintenance effort to remedy the concern. Management of change procedures need to be used, as appropriate, even for what may seem to be a minor change. Many of the deficiencies can be acted on promptly, while some may require engineering studies or indepth review of actual procedures and practices. There may be instances where no action is necessary and this is a valid response to an audit finding. All actions taken, including an explanation where no action is taken on a finding, needs to be documented as to what was done and why.

It is important to assure that each deficiency identified is addressed, the corrective action to be taken noted, and the audit person or team responsible be properly documented by the employer. To control the corrective action process, the employer should consider the use of a tracking system. This tracking system might include periodic status reports shared with affected levels of management, specific reports such as completion of an engineering study, and a final implementation report to provide closure for audit findings that have been through management of change, if appropriate, and then shared with affected employees and management. This type of tracking system provides the employer with the status of the corrective action. It also provides the documentation required to verify that appropriate corrective actions were taken on deficiencies identified in the audit.

Appendix D to § 1926.64—Sources of Further Information (Nonmandatory)

1. Center for Chemical Process Safety, American Institute of Chemical Engineers, 345 East 47th Street, New York, NY 10017, (212) 705-7319.

2. "Guidelines for Hazard Evaluation Procedures," American Institute of Chemical Engineers; 345 East 47th Street, New York, NY 10017.

3. "Guidelines for Technical Management of Chemical Process Safety," Center for Chemical Process Safety of the American Institute of Chemical Engineers; 345 East 47th Street, New York, NY 10017.

4. "Evaluating Process Safety in the Chemical Industry," Chemical Manufacturers Association; 2501 M Street NW, Washington, DC 20037.

5. "Safe Warehousing of Chemicals," Chemical Manufacturers Association; 2501 M Street NW, Washington, DC 20037.

6. "Management of Process Hazards," American Petroleum Institute (API Recommended Practice 750); 1220 L Street, N.W., Washington, D.C. 20005.

7. "Improving Owner and Contractor Safety Performance," American Petroleum Institute (API Recommended Practice 2220); API, 1220 L Street N.W., Washington, D.C. 20005.

8. Chemical Manufacturers Association (CMA's Manager Guide), First Edition, September 1991; CMA, 2501 M Street, N.W., Washington, D.C. 20037.

9. "Improving Construction Safety Performance," Report A- 3, The Business Roundtable; The Business Roundtable, 200 Park Avenue, New York, NY 10166. (Report includes criteria to evaluate contractor safety performance and criteria to enhance contractor safety performance).

10. "Recommended Guidelines for Contractor Safety and Health," Texas Chemical Council; Texas Chemical Council, 1402 Nueces Street, Austin, TX 78701-1534.

11. "Loss Prevention in the Process Industries," Volumes I and II; Frank P. Lees, Butterworth; London 1983.

12. "Safety and Health Program Management Guidelines," 1989; U.S. Department of Labor, Occupational Safety and Health Administration.

13. "Safety and Health Guide for the Chemical Industry," 1986, (OSHA 3091); U.S. Department of Labor, Occupational Safety and Health Administration; 200 Constitution Avenue, N.W., Washington, D.C. 20210.

14. "Review of Emergency Systems," June 1988; U.S. Environmental Protection Agency (EPA), Office of Solid Waste and Emergency Response, Washington, DC 20460.

15. "Technical Guidance for Hazards Analysis, Emergency Planning for Extremely Hazardous Substances," December 1987; U.S. Environmental Protection Agency (EPA), Federal Emergency Management Administration (FEMA) and U.S. Department of Transportation (DOT), Washington, DC 20460.

16. "Accident Investigation...A New Approach," 1983, National Safety Council; 444 North Michigan Avenue, Chicago, IL 60611-3991.

17. "Fire & Explosion Index Hazard Classification Guide," 6th Edition, May 1987, Dow Chemical Company; Midland, Michigan 48674.

18. "Chemical Exposure Index," May 1988, Dow Chemical Company; Midland, Michigan 48674.

12. New § 1926.65 is added to read as follows:

§ 1926.65 Hazardous waste operations and emergency response.

(a) *Scope, application, and definitions*—(1) *Scope.* This section covers the following operations, unless the employer can demonstrate that the operation does not involve employee exposure or the reasonable possibility for employee exposure to safety or health hazards:

(i) Clean-up operations required by a governmental body, whether Federal, state, local or other involving hazardous substances that are conducted at uncontrolled hazardous waste sites (including, but not limited to, the EPA's National Priority Site List (NPL), state priority site lists, sites recommended for the EPA NPL, and initial investigations of government identified sites which are conducted before the presence or absence of hazardous substances has been ascertained);

(ii) Corrective actions involving clean-up operations at sites covered by the Resource Conservation and Recovery Act of 1976 (RCRA) as amended (42 U.S.C. 6901 *et seq.*);

(iii) Voluntary clean-up operations at sites recognized by Federal, state, local or other governmental bodies as uncontrolled hazardous waste sites;

(iv) Operations involving hazardous wastes that are conducted at treatment, storage, and disposal (TSD) facilities regulated by 40 CFR parts 264 and 265 pursuant to RCRA; or by agencies under agreement with U.S.E.P.A. to implement RCRA regulations; and

(v) Emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard.

(2) *Application.* (i) All requirements of part 1910 and part 1926 of title 29 of the Code of Federal Regulations apply pursuant to their terms to hazardous waste and emergency response operations whether covered by this section or not. If there is a conflict or overlap, the provision more protective of employee safety and health shall apply without regard to 29 CFR 1926.20(e)(1).

(ii) Hazardous substance clean-up operations within the scope of paragraphs (a)(1)(i) through (a)(1)(iii) of this section must comply with all paragraphs of this section except paragraphs (p) and (q).

(iii) Operations within the scope of paragraph (a)(1)(iv) of this section must comply only with the requirements of paragraph (p) of this section.

Notes and Exceptions: (A) All provisions of paragraph (p) of this section cover any treatment, storage or disposal (TSD) operation regulated by 40 CFR parts 264 and 265 or by state law authorized under RCRA, and required to have a permit or interim status from EPA pursuant to 40 CFR 270.1 or from a state agency pursuant to RCRA.

(B) Employers who are not required to have a permit or interim status because they are conditionally exempt small quantity generators under 40 CFR 261.5 or are generators who qualify under 40 CFR 262.34 for exemptions from regulation under 40 CFR parts 264, 265 and 270 ("excepted employers") are not covered by paragraphs (p)(1) through (p)(7) of this section. Excepted employers who are required by the EPA or state agency to have their employees engage in emergency response or who direct their employees to engage in emergency response are covered by paragraph (p)(8) of this section, and cannot be exempted by (p)(8)(i) of this section. Excepted employers who are not required to have employees engage in emergency response, who direct their employees to evacuate in the case of such emergencies and who meet the requirements of paragraph (p)(8)(i) of this section are exempt from the balance of paragraph (p)(8) of this section.

(C) If an area is used primarily for treatment, storage or disposal, any emergency response operations in that area shall comply with paragraph (p)(8) of this section. In other areas not used primarily for treatment, storage, or disposal, any emergency response operations shall comply with paragraph (q) of this section. Compliance with the requirements of paragraph (q) of this section shall be deemed to be in compliance with the requirements of paragraph (p)(8) of this section.

(iv) Emergency response operations for releases of, or substantial threats of releases of, hazardous substances which are not covered by paragraphs (a)(1)(i) through (a)(1)(iv) of this section must only comply with the requirements of paragraph (q) of this section.

(3) *Definitions—Buddy system* means a system of organizing employees into work groups in such a manner that each employee of the work group is designated to be observed by at least one other employee in the work group. The purpose of the buddy system is to provide rapid assistance to employees in the event of an emergency.

Clean-up operation means an operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared-up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

Decontamination means the removal of hazardous substances from employees and their equipment to the extent necessary to preclude the occurrence of foreseeable adverse health affects.

Emergency response or *responding to emergencies* means a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual-aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance. Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release

area, or by maintenance personnel are not considered to be emergency responses within the scope of this standard. Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.

Facility means (A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any water-borne vessel.

Hazardous materials response (HAZMAT) team means an organized group of employees, designated by the employer, who are expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance. The team members perform responses to releases or potential releases of hazardous substances for the purpose of control or stabilization of the incident. A HAZMAT team is not a fire brigade nor is a typical fire brigade a HAZMAT team. A HAZMAT team, however, may be a separate component of a fire brigade or fire department.

Hazardous substance means any substance designated or listed under paragraphs (A) through (D) of this definition, exposure to which results or may result in adverse affects on the health or safety of employees:

(A) Any substance defined under section 101(14) of CERCLA;

(B) Any biological agent and other disease-causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such persons or their offspring;

(C) Any substance listed by the U.S. Department of Transportation as hazardous materials under 49 CFR 172.101 and appendices; and

(D) Hazardous waste as herein defined.

Hazardous waste means—

(A) A waste or combination of wastes as defined in 40 CFR 261.3, or

(B) Those substances defined as hazardous wastes in 49 CFR 171.8.

Hazardous waste operation means any operation conducted within the scope of this standard.

Hazardous waste site or *Site* means any facility or location within the scope of this standard at which hazardous waste operations take place.

Health hazard means a chemical, mixture of chemicals or a pathogen for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, heptaotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes. It also includes stress due to temperature extremes. Further definition of the terms used above can be found in appendix A to 29 CFR 1926.59.

IDLH or *Immediately dangerous to life or health* means an atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere.

Oxygen deficiency means that concentration of oxygen by volume below which atmosphere supplying respiratory protection must be provided. It exists in atmospheres where the percentage of oxygen by volume is less than 19.5 percent oxygen.

Permissible exposure limit means the exposure, inhalation or dermal permissible exposure limit specified either in §1926.55, elsewhere in subpart D, or in other pertinent sections of this part.

Published exposure level means the exposure limits published in "NIOSH Recommendations for Occupational Health Standards" dated 1986 incorporated by reference, or if none is specified, the exposure limits published in the standards specified by the American Conference of Governmental Industrial Hygienists in their publication "Threshold Limit Values and Biological Exposure Indices for 1987–88" dated 1987 incorporated by reference.

Post emergency response means that portion of an emergency response performed after the immediate threat of a release has been stabilized or eliminated and clean-up of the site has begun. If post emergency response is performed by an employer's own employees who were part of the initial emergency response, it is considered to be part of the initial response and not post emergency response. However, if a group of an employer's own employees, separate from the group providing initial response, performs the clean-up operation, then the separate group of employees would be considered to be performing post-emergency response and subject to paragraph (q)(11) of this section.

Qualified person means a person with specific training, knowledge and experience in the area for which the person has the responsibility and the authority to control.

Site safety and health supervisor (or official) means the individual located on a hazardous waste site who is responsible to the employer and has the authority and knowledge necessary to implement the site safety and health plan and verify compliance with applicable safety and health requirements.

Small quantity qenerator means a generator of hazardous wastes who in any calendar month generates no more than 1,000 kilograms (2,205 pounds) of hazardous waste in that month.

Uncontrolled hazardous waste site, means an area identified as an uncontrolled hazardous waste site by a governmental body, whether Federal, state, local or other where an accumulation of hazardous substances creates a threat to the health and safety of individuals or the environment or both. Some sites are found on public lands such as those created by former municipal, county or state landfills where illegal or poorly managed waste disposal has taken place. Other sites are found on private property, often belonging to generators or former generators of hazardous substance wastes. Examples of such sites include, but are not limited to, surface impoundments, landfills, dumps, and tank or drum farms. Normal operations at TSD sites are not covered by this definition.

(b) *Safety and health program.*

Note to (b): Safety and health programs developed and implemented to meet other Federal, state, or local regulations are considered acceptable in meeting this requirement if they cover or are modified to cover the topics required in this paragraph. An additional or separate safety and health program is not required by this paragraph.

(1) *General.* (i) Employers shall develop and implement a written safety

and health program for their employees involved in hazardous waste operations. The program shall be designed to identify, evaluate, and control safety and health hazards, and provide for emergency response for hazardous waste operations.

(ii) The written safety and health program shall incorporate the following:

(A) An organizational structure;

(B) A comprehensive workplan;

(C) A site-specific safety and health plan which need not repeat the employer's standard operating procedures required in paragraph (b)(1)(ii)(F) of this section;

(D) The safety and health training program;

(E) The medical surveillance program;

(F) The employer's standard operating procedures for safety and health; and

(G) Any necessary interface between general program and site specific activities.

(iii) *Site excavation.* Site excavations created during initial site preparation or during hazardous waste operations shall be shored or sloped as appropriate to prevent accidental collapse in accordance with subpart P of 29 CFR part 1926.

(iv) *Contractors and sub-contractors.* An employer who retains contractor or sub-contractor services for work in hazardous waste operations shall inform those contractors, sub-contractors, or their representatives of the site emergency response procedures and any potential fire, explosion, health, safety or other hazards of the hazardous waste operation that have been identified by the employer, including those identified in the employer's information program.

(v) *Program availability.* The written safety and health program shall be made available to any contractor or subcontractor or their representative who will be involved with the hazardous waste operation; to employees; to employee designated representatives; to OSHA personnel, and to personnel of other Federal, state, or local agencies with regulatory authority over the site.

(2) *Organizational structure part of the site program*—(i) The organizational structure part of the program shall establish the specific chain of command and specify the overall responsibilities of supervisors and employees. It shall include, at a minimum, the following elements:

(A) A general supervisor who has the responsibility and authority to direct all hazardous waste operations.

(B) A site safety and health supervisor who has the responsibility and authority to develop and implement the site safety and health plan and verify compliance.

(C) All other personnel needed for hazardous waste site operations and emergency response and their general functions and responsibilities.

(D) The lines of authority, responsibility, and communication.

(ii) The organizational structure shall be reviewed and updated as necessary to reflect the current status of waste site operations.

(3) *Comprehensive workplan part of the site program.* The comprehensive workplan part of the program shall address the tasks and objectives of the site operations and the logistics and resources required to reach those tasks and objectives.

(i) The comprehensive workplan shall address anticipated clean-up activities as well as normal operating procedures which need not repeat the employer's procedures available elsewhere.

(ii) The comprehensive workplan shall define work tasks and objectives and identify the methods for accomplishing those tasks and objectives.

(iii) The comprehensive workplan shall establish personnel requirements for implementing the plan.

(iv) The comprehensive workplan shall provide for the implementation of the training required in paragraph (e) of this section.

(v) The comprehensive workplan shall provide for the implementation of the required informational programs required in paragraph (i) of this section.

(vi) The comprehensive workplan shall provide for the implementation of the medical surveillance program described in paragraph (f) of this section.

(4) *Site-specific safety and health plan part of the program*—(i) *General.* The site safety and health plan, which must be kept on site, shall address the safety and health hazards of each phase of site operation and include the requirements and procedures for employee protection.

(ii) *Elements.* The site safety and health plan, as a minimum, shall address the following:

(A) A safety and health risk or hazard analysis for each site task and operation found in the workplan.

(B) Employee training assignments to assure compliance with paragraph (e) of this section.

(C) Personal protective equipment to be used by employees for each of the site tasks and operations being conducted as required by the personal protective equipment program in paragraph (g)(5) of this section.

(D) Medical surveillance requirements in accordance with the program in paragraph (f) of this section.

(E) Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used.

(F) Site control measures in accordance with the site control program required in paragraph (d) of this section.

(G) Decontamination procedures in accordance with paragraph (k) of this section.

(H) An emergency response plan meeting the requirements of paragraph (l) of this section for safe and effective responses to emergencies, including the necessary PPE and other equipment.

(I) Confined space entry procedures.

(J) A spill containment program meeting the requirements of paragraph (j) of this section.

(iii) *Pre-entry briefing.* The site specific safety and health plan shall provide for pre-entry briefings to be held prior to initiating any site activity, and at such other times as necessary to ensure that employees are apprised of the site safety and health plan and that this plan is being followed. The information and data obtained from site characterization and analysis work required in paragraph (c) of this section shall be used to prepare and update the site safety and health plan.

(iv) *Effectiveness of site safety and health plan.* Inspections shall be conducted by the site safety and health supervisor or, in the absence of that individual, another individual who is knowledgeable in occupational safety and health, acting on behalf of the employer as necessary to determine the effectiveness of the site safety and health plan. Any deficiencies in the effectiveness of the site safety and health plan shall be corrected by the employer.

(c) *Site characterization and analysis*—(1) *General.* Hazardous waste sites shall be evaluated in accordance with this paragraph to identify specific site hazards and to determine the appropriate safety and health control procedures needed to protect employees from the identified hazards.

(2) *Preliminary evaluation.* A preliminary evaluation of a site's characteristics shall be performed prior to site entry by a qualified person in order to aid in the selection of appropriate employee protection methods prior to site entry. Immediately after initial site entry, a more detailed evaluation of the site's specific characteristics shall be performed by a qualified person in order to further identify existing site hazards and to

further aid in the selection of the appropriate engineering controls and personal protective equipment for the tasks to be performed.

(3) *Hazard identification.* All suspected conditions that may pose inhalation or skin absorption hazards that are immediately dangerous to life or health (IDLH), or other conditions that may cause death or serious harm, shall be identified during the preliminary survey and evaluated during the detailed survey. Examples of such hazards include, but are not limited to, confined space entry, potentially explosive or flammable situations, visible vapor clouds, or areas where biological indicators such as dead animals or vegetation are located.

(4) *Required information.* The following information to the extent available shall be obtained by the employer prior to allowing employees to enter a site:

(i) Location and approximate size of the site.

(ii) Description of the response activity and/or the job task to be performed.

(iii) Duration of the planned employee activity.

(iv) Site topography and accessibility by air and roads.

(v) Safety and health hazards expected at the site.

(vi) Pathways for hazardous substance dispersion.

(vii) Present status and capabilities of emergency response teams that would provide assistance to hazardous waste clean-up site employees at the time of an emergency.

(viii) Hazardous substances and health hazards involved or expected at the site, and their chemical and physical properties.

(5) *Personal protective equipment.* Personal protective equipment (PPE) shall be provided and used during initial site entry in accordance with the following requirements:

(i) Based upon the results of the preliminary site evaluation, an ensemble of PPE shall be selected and used during initial site entry which will provide protection to a level of exposure below permissible exposure limits and published exposure levels for known or suspected hazardous substances and health hazards, and which will provide protection against other known and suspected hazards identified during the preliminary site evaluation. If there is no permissible exposure limit or published exposure level, the employer may use other published studies and information as a guide to appropriate personal protective equipment.

(ii) If positive-pressure self-contained breathing apparatus is not used as part of the entry ensemble, and if respiratory protection is warranted by the potential hazards identified during the preliminary site evaluation, an escape self-contained breathing apparatus of at least five minute's duration shall be carried by employees during initial site entry.

(iii) If the preliminary site evaluation does not produce sufficient information to identify the hazards or suspected hazards of the site, an ensemble providing protection equivalent to Level B PPE shall be provided as minimum protection, and direct reading instruments shall be used as appropriate for identifying IDLH conditions. (See appendix B for a description of Level B hazards and the recommendations for Level B protective equipment.)

(iv) Once the hazards of the site have been identified, the appropriate PPE shall be selected and used in accordance with paragraph (g) of this section.

(6) *Monitoring.* The following monitoring shall be conducted during initial site entry when the site evaluation produces information that shows the potential for ionizing radiation or IDLH conditions, or when the site information is not sufficient reasonably to eliminate these possible conditions:

(i) Monitoring with direct reading instruments for hazardous levels of ionizing radiation.

(ii) Monitoring the air with appropriate direct reading test equipment (i.e., combustible gas meters, detector tubes) for IDLH and other conditions that may cause death or serious harm (combustible or explosive atmospheres, oxygen deficiency, toxic substances).

(iii) Visually observing for signs of actual or potential IDLH or other dangerous conditions.

(iv) An ongoing air monitoring program in accordance with paragraph (h) of this section shall be implemented after site characterization has determined the site is safe for the start-up of operations.

(7) *Risk identification.* Once the presence and concentrations of specific hazardous substances and health hazards have been established, the risks associated with these substances shall be identified. Employees who will be working on the site shall be informed of any risks that have been identified. In situations covered by the Hazard Communication Standard, 29 CFR 1926.59, training required by that standard need not be duplicated.

Note to (c)(7).—Risks to consider include, but are not limited to:

(a) Exposures exceeding the permissible exposure limits and published exposure levels.

(b) IDLH concentrations.

(c) Potential skin absorption and irritation sources.

(d) Potential eye irritation sources.

(e) Explosion sensitivity and flammability ranges.

(f) Oxygen deficiency.

(8) *Employee notification.* Any information concerning the chemical, physical, and toxicologic properties of each substance known or expected to be present on site that is available to the employer and relevant to the duties an employee is expected to perform shall be made available to the affected employees prior to the commencement of their work activities. The employer may utilize information developed for the hazard communication standard for this purpose.

(d) *Site control*—(1) *General.* Appropriate site control procedures shall be implemented to control employee exposure to hazardous substances before clean-up work begins.

(2) *Site control program.* A site control program for protecting employees which is part of the employer's site safety and health program required in paragraph (b) of this section shall be developed during the planning stages of a hazardous waste clean-up operation and modified as necessary as new information becomes available.

(3) *Elements of the site control program.* The site control program shall, as a minimum, include: A site map; site work zones; the use of a "buddy system"; site communications including alerting means for emergencies; the standard operating procedures or safe work practices; and, identification of the nearest medical assistance. Where these requirements are covered elsewhere they need not be repeated.

(e) *Training*—(1) *General.* (i) All employees working on site (such as but not limited to equipment operators, general laborers and others) exposed to hazardous substances, health hazards, or safety hazards and their supervisors and management responsible for the site shall receive training meeting the requirements of this paragraph before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances, safety, or health hazards, and they shall receive review training as specified in this paragraph.

(ii) Employees shall not be permitted to participate in or supervise field activities until they have been trained to a level required by their job function and responsibility.

(2) *Elements to be covered.* The training shall thoroughly cover the following:

(i) Names of personnel and alternates responsible for site safety and health;

(ii) Safety, health and other hazards present on the site;

(iii) Use of personal protective equipment;

(iv) Work practices by which the employee can minimize risks from hazards;

(v) Safe use of engineering controls and equipment on the site;

(vi) Medical surveillance requirements, including recognition of symptoms and signs which might indicate overexposure to hazards; and

(vii) The contents of paragraphs (G) through (J) of the site safety and health plan set forth in paragraph (b)(4)(ii) of this section.

(3) *Initial training.* (i) General site workers (such as equipment operators, general laborers and supervisory personnel) engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous substances and health hazards shall receive a minimum of 40 hours of instruction off the site, and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor.

(ii) Workers on site only occasionally for a specific limited task (such as, but not limited to, ground water monitoring, land surveying, or geo-physical surveying) and who are unlikely to be exposed over permissible exposure limits and published exposure limits shall receive a minimum of 24 hours of instruction off the site, and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.

(iii) Workers regularly on site who work in areas which have been monitored and fully characterized indicating that exposures are under permissible exposure limits and published exposure limits where respirators are not necessary, and the characterization indicates that there are no health hazards or the possibility of an emergency developing, shall receive a minimum of 24 hours of instruction off the site and the minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.

(iv) Workers with 24 hours of training who are covered by paragraphs (e)(3)(ii) and (e)(3)(iii) of this section, and who become general site workers or who are required to wear respirators, shall have the additional 16 hours and two days of training necessary to total the training specified in paragraph (e)(3)(i).

(4) *Management and supervisor training.* On-site management and supervisors directly responsible for, or who supervise employees engaged in, hazardous waste operations shall receive 40 hours initial training, and three days of supervised field experience (the training may be reduced to 24 hours and one day if the only area of their responsibility is employees covered by paragraphs (e)(3)(ii) and (e)(3)(iii)) and at least eight additional hours of specialized training at the time of job assignment on such topics as, but not limited to, the employer's safety and health program and the associated employee training program, personal protective equipment program, spill containment program, and health hazard monitoring procedure and techniques.

(5) *Qualifications for trainers.* Trainers shall be qualified to instruct employees about the subject matter that is being presented in training. Such trainers shall have satisfactorily completed a training program for teaching the subjects they are expected to teach, or they shall have the academic credentials and instructional experience necessary for teaching the subjects. Instructors shall demonstrate competent instructional skills and knowledge of the applicable subject matter.

(6) *Training certification.* Employees and supervisors that have received and successfully completed the training and field experience specified in paragraphs (e)(1) through (e)(4) of this section shall be certified by their instructor or the head instructor and trained supervisor as having successfully completed the necessary training. A written certificate shall be given to each person so certified. Any person who has not been so certified or who does not meet the requirements of paragraph (e)(9) of this section shall be prohibited from engaging in hazardous waste operations.

(7) *Emergency response.* Employees who are engaged in responding to hazardous emergency situations at hazardous waste clean-up sites that may expose them to hazardous substances shall be trained in how to respond to such expected emergencies.

(8) *Refresher training.* Employees specified in paragraph (e)(1) of this section, and managers and supervisors specified in paragraph (e)(4) of this section, shall receive eight hours of refresher training annually on the items specified in paragraph (e)(2) and/or (e)(4) of this section, any critique of incidents that have occurred in the past year that can serve as training examples of related work, and other relevant topics.

(9) *Equivalent training.* Employers who can show by documentation or certification that an employee's work experience and/or training has resulted in training equivalent to that training required in paragraphs (e)(1) through (e)(4) of this section shall not be required to provide the initial training requirements of those paragraphs to such employees and shall provide a copy of the certification or documentation to the employee upon request. However, certified employees or employees with equivalent training new to a site shall receive appropriate, site specific training before site entry and have appropriate supervised field experience at the new site. Equivalent training includes any academic training or the training that existing employees might have already received from actual hazardous waste site work experience.

(f) *Medical surveillance*—(1) *General.* Employers engaged in operations specified in paragraphs (a)(1)(i) through (a)(1)(iv) of this section and not covered by (a)(2)(iii) exceptions and employers of employees specified in paragraph (q)(9) shall institute a medical surveillance program in accordance with this paragraph.

(2) *Employees covered.* The medical surveillance program shall be instituted by the employer for the following employees:

(i) All employees who are or may be exposed to hazardous substances or health hazards at or above the permissible exposure limits or, if there is no permissible exposure limit, above the published exposure levels for these substances, without regard to the use of respirators, for 30 days or more a year;

(ii) All employees who wear a respirator for 30 days or more a year or as required by § 1926.103;

(iii) All employees who are injured, become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation; and

(iv) Members of HAZMAT teams.

(3) *Frequency of medical examinations and consultations.* Medical examinations and consultations shall be made available by the employer to each employee covered under paragraph (f)(2) of this section on the following schedules:

(i) For employees covered under paragraphs (f)(2)(i), (f)(2)(ii), and (f)(2)(iv):

(A) Prior to assignment;

(B) At least once every twelve months for each employee covered unless the

attending physician believes a longer interval (not greater than biennially) is appropriate;

(C) At termination of employment or reassignment to an area where the employee would not be covered if the employee has not had an examination within the last six months;

(D) As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that the employee has been injured or exposed above the permissible exposure limits or published exposure levels in an emergency situation;

(E) At more frequent times, if the examining physician determines that an increased frequency of examination is medically necessary.

(ii) For employees covered under paragraph (f)(2)(iii) and for all employees including those of employers covered by paragraph (a)(1)(v) who may have been injured, received a health impairment, developed signs or symptoms which may have resulted from exposure to hazardous substances resulting from an emergency incident, or exposed during an emergency incident to hazardous substances at concentrations above the permissible exposure limits or the published exposure levels without the necessary personal protective equipment being used:

(A) As soon as possible following the emergency incident or development of signs or symptoms;

(B) At additional times, if the examining physician determines that follow-up examinations or consultations are medically necessary.

(4) *Content of medical examinations and consultations.* (i) Medical examinations required by paragraph (f)(3) of this section shall include a medical and work history (or updated history if one is in the employee's file) with special emphasis on symptoms related to the handling of hazardous substances and health hazards, and to fitness for duty including the ability to wear any required PPE under conditions (i.e., temperature extremes) that may be expected at the work site.

(ii) The content of medical examinations or consultations made available to employees pursuant to paragraph (f) shall be determined by the attending physician. The guidelines in the *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities* (See appendix D, Reference #10) should be consulted.

(5) *Examination by a physician and costs.* All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and shall be provided without cost to the employee, without loss of pay, and at a reasonable time and place.

(6) *Information provided to the physician.* The employer shall provide one copy of this standard and its appendices to the attending physician, and in addition the following for each employee:

(i) A description of the employee's duties as they relate to the employee's exposures.

(ii) The employee's exposure levels or anticipated exposure levels.

(iii) A description of any personal protective equipment used or to be used.

(iv) Information from previous medical examinations of the employee which is not readily available to the examining physician.

(v) Information required by § 1926.103.

(7) *Physician's written opinion.* (i) The employer shall obtain and furnish the employee with a copy of a written opinion from the attending physician containing the following:

(A) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from work in hazardous waste operations or emergency response, or from respirator use.

(B) The physician's recommended limitations upon the employee's assigned work.

(C) The results of the medical examination and tests if requested by the employee.

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

(ii) The written opinion obtained by the employer shall not reveal specific findings or diagnoses unrelated to occupational exposures.

(8) *Recordkeeping.* (i) An accurate record of the medical surveillance required by paragraph (f) of this section shall be retained. This record shall be retained for the period specified and meet the criteria of 29 CFR 1926.33.

(ii) The record required in paragraph (f)(8)(i) of this section shall include at least the following information:

(A) The name and social security number of the employee;

(B) Physician's written opinions, recommended limitations, and results of examinations and tests;

(C) Any employee medical complaints related to exposure to hazardous substances;

(D) A copy of the information provided to the examining physician by the employer, with the exception of the standard and its appendices.

(g) *Engineering controls, work practices, and personal protective equipment for employee protection.* Engineering controls, work practices, personal protective equipment, or a combination of these shall be implemented in accordance with this paragraph to protect employees from exposure to hazardous substances and safety and health hazards.

(1) *Engineering controls, work practices and PPE for substances regulated either in § 1926.55, elsewhere in subpart D, or in other pertinent sections of this part.* (i) Engineering controls and work practices shall be instituted to reduce and maintain employee exposure to or below the permissible exposure limits for substances regulated either in § 1926.55 or other pertinent sections of this part, except to the extent that such controls and practices are not feasible.

Note to (g)(1)(i): Engineering controls which may be feasible include the use of pressurized cabs or control booths on equipment, and/or the use of remotely operated material handling equipment. Work practices which may be feasible are removing all non-essential employees from potential exposure during opening of drums, wetting down dusty operations and locating employees upwind of possible hazards.

(ii) Whenever engineering controls and work practices are not feasible or not required, any reasonable combination of engineering controls, work practices and PPE shall be used to reduce and maintain employee exposures to or below the permissible exposure limits or dose limits for substances regulated either in §1926.55 or other pertinent sections of this part.

(iii) The employer shall not implement a schedule of employee rotation as a means of compliance with permissible exposure limits or dose limits except when there is no other feasible way of complying with the airborne or dermal dose limits for ionizing radiation.

(iv) The provisions of subpart D shall be followed.

(2) *Engineering controls, work practices, and PPE for substances not regulated either in §1926.55, elsewhere in subpart D, or in other pertinent sections of this part.* An appropriate combination of engineering controls, work practices and personal protective equipment shall be used to reduce and maintain employee exposure to or

below published exposure levels for hazardous substances and health hazards not regulated either in §1926.55, elsewhere in subpart D, or in other pertinent sections of this part. The employer may use the published literature and MSDS as a guide in making the employer's determination as to what level of protection the employer believes is appropriate for hazardous substances and health hazards for which there is no permissible exposure limit or published exposure limit.

(3) *Personal protective equipment selection.* (i) Personal protective equipment (PPE) shall be selected and used which will protect employees from the hazards and potential hazards they are likely to encounter as identified during the site characterization and analysis.

(ii) Personal protective equipment selection shall be based on an evaluation of the performance characteristics of the PPE relative to the requirements and limitations of the site, the task-specific conditions and duration, and the hazards and potential hazards identified at the site.

(iii) Positive pressure self-contained breathing apparatus, or positive pressure air-line respirators equipped with an escape air supply, shall be used when chemical exposure levels present will create a substantial possibility of immediate death, immediate serious illness or injury, or impair the ability to escape.

(iv) Totally-encapsulating chemical protective suits (protection equivalent to Level A protection as recommended in appendix B) shall be used in conditions where skin absorption of a hazardous substance may result in a substantial possibility of immediate death, immediate serious illness or injury, or impair the ability to escape.

(v) The level of protection provided by PPE selection shall be increased when additional information on site conditions indicates that increased protection is necessary to reduce employee exposures below permissible exposure limits and published exposure levels for hazardous substances and health hazards. (See appendix B for guidance on selecting PPE ensembles.)

Note to (g)(3): The level of employee protection provided may be decreased when additional information or site conditions show that decreased protection will not result in hazardous exposures to employees.

(vi) Personal protective equipment shall be selected and used to meet the requirements of subpart E of this part and additional requirements specified in this section.

(4) *Totally-encapsulating chemical protective suits.* (i) Totally-encapsulating suits shall protect employees from the particular hazards which are identified during site characterization and analysis.

(ii) Totally-encapsulating suits shall be capable of maintaining positive air pressure. (See appendix A for a test method which may be used to evaluate this requirement.)

(iii) Totally-encapsulating suits shall be capable of preventing inward test gas leakage of more than 0.5 percent. (See appendix A for a test method which may be used to evaluate this requirement.)

(5) *Personal protective equipment (PPE) program.* A written personal protective equipment program, which is part of the employer's safety and health program required in paragraph (b) of this section or required in paragraph (p)(1) of this section and which is also a part of the site-specific safety and health plan shall be established. The PPE program shall address the elements listed below. When elements, such as donning and doffing procedures, are provided by the manufacturer of a piece of equipment and are attached to the plan, they need not be rewritten into the plan as long as they adequately address the procedure or element.

(i) PPE selection based upon site hazards,

(ii) PPE use and limitations of the equipment,

(iii) Work mission duration,

(iv) PPE maintenance and storage,

(v) PPE decontamination and disposal,

(vi) PPE training and proper fitting,

(vii) PPE donning and doffing procedures,

(viii) PPE inspection procedures prior to, during, and after use,

(ix) Evaluation of the effectiveness of the PPE program, and

(x) Limitations during temperature extremes, heat stress, and other appropriate medical considerations.

(h) *Monitoring*—(1) *General.* (i) Monitoring shall be performed in accordance with this paragraph where there may be a question of employee exposure to hazardous concentrations of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment so that employees are not exposed to levels which exceed permissible exposure limits, or published exposure levels if there are no permissible exposure limits, for hazardous substances.

(ii) Air monitoring shall be used to identify and quantify airborne levels of hazardous substances and safety and health hazards in order to determine the appropriate level of employee protection needed on site.

(2) *Initial entry.* Upon initial entry, representative air monitoring shall be conducted to identify any IDLH condition, exposure over permissible exposure limits or published exposure levels, exposure over a radioactive material's dose limits or other dangerous condition such as the presence of flammable atmospheres or oxygen-deficient environments.

(3) *Periodic monitoring.* Periodic monitoring shall be conducted when the possibility of an IDLH condition or flammable atmosphere has developed or when there is indication that exposures may have risen over permissible exposure limits or published exposure levels since prior monitoring. Situations where it shall be considered whether the possibility that exposures have risen are as follows:

(i) When work begins on a different portion of the site.

(ii) When contaminants other than those previously identified are being handled.

(iii) When a different type of operation is initiated (e.g., drum opening as opposed to exploratory well drilling).

(iv) When employees are handling leaking drums or containers or working in areas with obvious liquid contamination (e.g., a spill or lagoon).

(4) *Monitoring of high-risk employees.* After the actual clean-up phase of any hazardous waste operation commences; for example, when soil, surface water or containers are moved or disturbed; the employer shall monitor those employees likely to have the highest exposures to hazardous substances and health hazards likely to be present above permissible exposure limits or published exposure levels by using personal sampling frequently enough to characterize employee exposures. If the employees likely to have the highest exposure are over permissible exposure limits or published exposure limits, then monitoring shall continue to determine all employees likely to be above those limits. The employer may utilize a representative sampling approach by documenting that the employees and chemicals chosen for monitoring are based on the criteria stated above.

Note to (h): It is not required to monitor employees engaged in site characterization operations covered by paragraph (c) of this section.

(i) *Informational programs.* Employers shall develop and implement a program, which is part of the employer's safety and health program

required in paragraph (b) of this section, to inform employees, contractors, and subcontractors (or their representative) actually engaged in hazardous waste operations of the nature, level and degree of exposure likely as a result of participation in such hazardous waste operations. Employees, contractors and subcontractors working outside of the operations part of a site are not covered by this standard.

(j) *Handling drums and containers*—(1) *General.* (i) Hazardous substances and contaminated soils, liquids, and other residues shall be handled, transported, labeled, and disposed of in accordance with this paragraph.

(ii) Drums and containers used during the clean-up shall meet the appropriate DOT, OSHA, and EPA regulations for the wastes that they contain.

(iii) When practical, drums and containers shall be inspected and their integrity shall be assured prior to being moved. Drums or containers that cannot be inspected before being moved because of storage conditions (i.e., buried beneath the earth, stacked behind other drums, stacked several tiers high in a pile, etc.) shall be moved to an accessible location and inspected prior to further handling.

(iv) Unlabelled drums and containers shall be considered to contain hazardous substances and handled accordingly until the contents are positively identified and labeled.

(v) Site operations shall be organized to minimize the amount of drum or container movement.

(vi) Prior to movement of drums or containers, all employees exposed to the transfer operation shall be warned of the potential hazards associated with the contents of the drums or containers.

(vii) U.S. Department of Transportation specified salvage drums or containers and suitable quantities of proper absorbent shall be kept available and used in areas where spills, leaks, or ruptures may occur.

(viii) Where major spills may occur, a spill containment program, which is part of the employer's safety and health program required in paragraph (b) of this section, shall be implemented to contain and isolate the entire volume of the hazardous substance being transferred.

(ix) Drums and containers that cannot be moved without rupture, leakage, or spillage shall be emptied into a sound container using a device classified for the material being transferred.

(x) A ground-penetrating system or other type of detection system or device shall be used to estimate the location and depth of buried drums or containers.

(xi) Soil or covering material shall be removed with caution to prevent drum or container rupture.

(xii) Fire extinguishing equipment meeting the requirements of subpart F of this part shall be on hand and ready for use to control incipient fires.

(2) *Opening drums and containers.* The following procedures shall be followed in areas where drums or containers are being opened:

(i) Where an airline respirator system is used, connections to the source of air supply shall be protected from contamination and the entire system shall be protected from physical damage.

(ii) Employees not actually involved in opening drums or containers shall be kept a safe distance from the drums or containers being opened.

(iii) If employees must work near or adjacent to drums or containers being opened, a suitable shield that does not interfere with the work operation shall be placed between the employee and the drums or containers being opened to protect the employee in case of accidental explosion.

(iv) Controls for drum or container opening equipment, monitoring equipment, and fire suppression equipment shall be located behind the explosion-resistant barrier.

(v) When there is a reasonable possibility of flammable atmospheres being present, material handling equipment and hand tools shall be of the type to prevent sources of ignition.

(vi) Drums and containers shall be opened in such a manner that excess interior pressure will be safely relieved. If pressure can not be relieved from a remote location, appropriate shielding shall be placed between the employee and the drums or containers to reduce the risk of employee injury.

(vii) Employees shall not stand upon or work from drums or containers.

(3) *Material handling equipment.* Material handiing equipment used to transfer drums and containers shall be selected, positioned and operated to minimize sources of ignition related to the equipment from igniting vapors released from ruptured drums or containers.

(4) *Radioactive wastes.* Drums and containers containing radioactive wastes shall not be handled until such time as their hazard to employees is properly assessed.

(5) *Shock sensitive wastes.* As a minimum, the following special precautions shall be taken when drums and containers containing or suspected of containing shock-sensitive wastes are handled:

(i) All non-essential employees shall be evacuated from the area of transfer.

(ii) Material handling equipment shall be provided with explosive containment devices or protective shields to protect equipment operators from exploding containers.

(iii) An employee alarm system capable of being perceived above surrounding light and noise conditions shall be used to signal the commencement and completion of explosive waste handling activities.

(iv) Continuous communications (i.e., portable radios, hand signals, telephones, as appropriate) shall be maintained between the employee-in-charge of the immediate handling area and both the site safety and health supervisor and the command post until such time as the handling operation is completed. Communication equipment or methods that could cause shock sensitive materials to explode shall not be used.

(v) Drums and containers under pressure, as evidenced by bulging or swelling, shall not be moved until such time as the cause for excess pressure is determined and appropriate containment procedures have been implemented to protect employees from explosive relief of the drum.

(vi) Drums and containers containing packaged laboratory wastes shall be considered to contain shock-sensitive or explosive materials until they have been characterized.

Caution: Shipping of shock sensitive wastes may be prohibited under U.S. Department of Transportation regulations. Employers and their shippers should refer to 49 CFR 173.21 and 173.50.

(6) *Laboratory waste packs.* In addition to the requirements of paragraph (j)(5) of this section, the following precautions shall be taken, as a minimum, in handling laboratory waste packs (lab packs):

(i) Lab packs shall be opened only when necessary and then only by an individual knowledgeable in the inspection, classification, and segregation of the containers within the pack according to the hazards of the wastes.

(ii) If crystalline material is noted on any container, the contents shall be handled as a shock-sensitive waste until the contents are identified.

(7) *Sampling of drum and container contents.* Sampling of containers and drums shall be done in accordance with a sampling procedure which is part of the site safety and health plan developed for and available to employees and others at the specific worksite.

(8) *Shipping and transport.* (i) Drums and containers shall be identified and classified prior to packaging for shipment.

(ii) Drum or container staging areas shall be kept to the minimum number necessary to identify and classify materials safely and prepare them for transport.

(iii) Staging areas shall be provided with adequate access and egress routes.

(iv) Bulking of hazardous wastes shall be permitted only after a thorough characterization of the materials has been completed.

(9) *Tank and vault procedures.* (i) Tanks and vaults containing hazardous substances shall be handled in a manner similar to that for drums and containers, taking into consideration the size of the tank or vault.

(ii) Appropriate tank or vault entry procedures as described in the employer's safety and health plan shall be followed whenever employees must enter a tank or vault.

(k) *Decontamination*—(1) *General.* Procedures for all phases of decontamination shall be developed and implemented in accordance with this paragraph.

(2) *Decontamination procedures.* (i) A decontamination procedure shall be developed, communicated to employees and implemented before any employees or equipment may enter areas on site where potential for exposure to hazardous substances exists.

(ii) Standard operating procedures shall be developed to minimize employee contact with hazardous substances or with equipment that has contacted hazardous substances.

(iii) All employees leaving a contaminated area shall be appropriately decontaminated; all contaminated clothing and equipment leaving a contaminated area shall be appropriately disposed of or decontaminated.

(iv) Decontamination procedures shall be monitored by the site safety and health supervisor to determine their effectiveness. When such procedures are found to be ineffective, appropriate steps shall be taken to correct any deficiencies.

(3) *Location.* Decontamination shall be performed in geographical areas that will minimize the exposure of uncontaminated employees or equipment to contaminated employees or equipment.

(4) *Equipment and solvents.* All equipment and solvents used for decontamination shall be decontaminated or disposed of properly.

(5) *Personal protective clothing and equipment.* (i) Protective clothing and equipment shall be decontaminated, cleaned, laundered, maintained or replaced as needed to maintain their effectiveness.

(ii) Employees whose non-impermeable clothing becomes wetted with hazardous substances shall immediately remove that clothing and proceed to shower. The clothing shall be disposed of or decontaminated before it is removed from the work zone.

(6) *Unauthorized employees.* Unauthorized employees shall not remove protective clothing or equipment from change rooms.

(7) *Commercial laundries or cleaning establishments.* Commercial laundries or cleaning establishments that decontaminate protective clothing or equipment shall be informed of the potentially harmful effects of exposures to hazardous substances.

(8) *Showers and change rooms.* Where the decontamination procedure indicates a need for regular showers and change rooms outside of a contaminated area, they shall be provided and meet the requirements of 29 CFR 1910.141. If temperature conditions prevent the effective use of water, then other effective means for cleansing shall be provided and used.

(l) *Emergency response by employees at uncontrolled hazardous waste sites*—(1) *Emergency response plan.* (i) An emergency response plan shall be developed and implemented by all employers within the scope of paragraphs (a)(1) (i)–(ii) of this section to handle anticipated emergencies prior to the commencement of hazardous waste operations. The plan shall be in writing and available for inspection and copying by employees, their representatives, OSHA personnel and other governmental agencies with relevant responsibilities.

(ii) Employers who will evacuate their employees from the danger area when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of this paragraph if they provide an emergency action plan complying with § 1926.35 of this part.

(2) *Elements of an emergency response plan.* The employer shall develop an emergency response plan for emergencies which shall address, as a minimum, the following:

(i) Pre-emergency planning.

(ii) Personnel roles, lines of authority, and communication.

(iii) Emergency recognition and prevention.

(iv) Safe distances and places of refuge.

(v) Site security and control.

(vi) Evacuation routes and procedures.

(vii) Decontamination procedures which are not covered by the site safety and health plan.

(viii) Emergency medical treatment and first aid.

(ix) Emergency alerting and response procedures.

(x) Critique of response and follow-up.

(xi) PPE and emergency equipment.

(3) *Procedures for handling emergency incidents.* (i) In addition to the elements for the emergency response plan required in paragraph (l)(2) of this section, the following elements shall be included for emergency response plans:

(A) Site topography, layout, and prevailing weather conditions.

(B) Procedures for reporting incidents to local, state, and federal governmental agencies.

(ii) The emergency response plan shall be a separate section of the Site Safety and Health Plan.

(iii) The emergency response plan shall be compatible and integrated with the disaster, fire and/or emergency response plans of local, state, and federal agencies.

(iv) The emergency response plan shall be rehearsed regularly as part of the overall training program for site operations.

(v) The site emergency response plan shall be reviewed periodically and, as necessary, be amended to keep it current with new or changing site conditions or information.

(vi) An employee alarm system shall be installed in accordance with 29 CFR 1926.159 to notify employees of an emergency situation; to stop work activities if necessary; to lower background noise in order to speed communication; and to begin emergency procedures.

(vii) Based upon the information available at time of the emergency, the employer shall evaluate the incident and the site response capabilities and proceed with the appropriate steps to implement the site emergency response plan.

(m) *Illumination.* Areas accessible to employees shall be lighted to not less than the minimum illumination intensities listed in the following Table D–65.1 while any work is in progress:

TABLE D–65.1—MINIMUM ILLUMINATION INTENSITIES IN FOOT-CANDLES

Foot-candles	Area or operations
5	General site areas.
3	Excavation and waste areas, accessways, active storage areas, loading platforms, refueling, and field maintenance areas.
5	Indoors: Warehouses, corridors, hallways, and exitways.
5	Tunnels, shafts, and general underground work areas. (Exception: Minimum of 10 foot-candles is required at tunnel and shaft heading during drilling mucking, and scaling. Mine Safety and Health Administration approved cap lights shall be acceptable for use in the tunnel heading.)
10	General shops (e.g., mechanical and electrical equipment rooms, active storerooms, barracks or living quarters, locker or dressing rooms, dining areas, and indoor toilets and workrooms.)
30	First aid stations, infirmaries, and offices.

(n) *Sanitation at temporary workplaces*—(1) *Potable water.* (i) An adequate supply of potable water shall be provided on the site.

(ii) Portable containers used to dispense drinking water shall be capable of being tightly closed, and equipped with a tap. Water shall not be dipped from containers.

(iii) Any container used to distribute drinking water shall be clearly marked as to the nature of its contents and not used for any other purpose.

(iv) Where single service cups (to be used but once) are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

(2) *Nonpotable water.* (i) Outlets for nonpotable water, such as water for firefighting purposes, shall be identified to indicate clearly that the water is unsafe and is not to be used for drinking, washing, or cooking purposes.

(ii) There shall be no cross-connection, open or potential, between a system furnishing potable water and a system furnishing nonpotable water.

(3) *Toilet facilities.* (i) Toilets shall be provided for employees according to the following Table D–65.2.

TABLE D–65.2—TOILET FACILITIES

Number of employees	Minimum number of facilities
20 or fewer	One.
More than 20, fewer than 200.	One toilet seat and one urinal per 40 employees.
More than 200	One toilet seat and one urinal per 50 employees.

(ii) Under temporary field conditions, provisions shall be made to assure that at least one toilet facility is available.

(iii) Hazardous waste sites not provided with a sanitary sewer shall be provided with the following toilet facilities unless prohibited by local codes:

(A) Chemical toilets;
(B) Recirculating toilets;
(C) Combustion toilets; or
(D) Flush toilets.

(iv) The requirements of this paragraph for sanitation facilities shall not apply to mobile crews having transportation readily available to nearby toilet facilities.

(v) Doors entering toilet facilities shall be provided with entrance locks controlled from inside the facility.

(4) *Food handling.* All food service facilities and operations for employees shall meet the applicable laws, ordinances, and regulations of the jurisdictions in which they are located.

(5) *Temporary sleeping quarters.* When temporary sleeping quarters are provided, they shall be heated, ventilated, and lighted.

(6) *Washing facilities.* The employer shall provide adequate washing facilities for employees engaged in operations where hazardous substances may be harmful to employees. Such facilities shall be in near proximity to the worksite; in areas where exposures are below permissible exposure limits and published exposure levels and which are under the controls of the employer; and shall be so equipped as to enable employees to remove hazardous substances from themselves.

(7) *Showers and change rooms.* When hazardous waste clean-up or removal operations commence on a site and the duration of the work will require six months or greater time to complete, the employer shall provide showers and change rooms for all employees exposed to hazardous substances and health hazards involved in hazardous waste clean-up or removal operations.

(i) Showers shall be provided and shall meet the requirements of 29 CFR 1926.51(f)(4).

(ii) Change rooms shall be provided and shall meet the requirements of 29 CFR 1926.51(i). Change rooms shall consist of two separate change areas separated by the shower area required in paragraph (n)(7)(i) of this section. One change area, with an exit leading off the worksite, shall provide employees with a clean area where they can remove, store, and put on street clothing. The second area, with an exit to the worksite, shall provide employees with an area where they can put on, remove and store work clothing and personal protective equipment.

(iii) Showers and change rooms shall be located in areas where exposures are below the permissible exposure limits and published exposure levels. If this cannot be accomplished, then a ventilation system shall be provided that will supply air that is below the permissible exposure limits and published exposure levels.

(iv) Employers shall assure that employees shower at the end of their work shift and when leaving the hazardous waste site.

(o) *New technology programs.* (1) The employer shall develop and implement procedures for the introduction of effective new technologies and equipment developed for the improved protection of employees working with hazardous waste clean-up operations, and the same shall be implemented as part of the site safety and health program to assure that employee protection is being maintained.

(2) New technologies, equipment or control measures available to the industry, such as the use of foams, absorbents, adsorbents, neutralizers, or other means to suppress the level of air contaminates while excavating the site or for spill control, shall be evaluated by employers or their representatives. Such an evaluation shall be done to determine the effectiveness of the new methods, materials, or equipment before implementing their use on a large scale for enhancing employee protection. Information and data from manufacturers or suppliers may be used as part of the employer's evaluation effort. Such evaluations shall be made available to OSHA upon request.

(p) *Certain operations conducted under the Resource Conservation and Recovery Act of 1976 (RCRA).* Employers conducting operations at treatment, storage and disposal (TSD) facilities specified in paragraph (a)(1)(iv) of this section shall provide and implement the programs specified in this paragraph. See the "Notes and Exceptions" to paragraph (a)(2)(iii) of this section for employers not covered.)".

(1) *Safety and health program.* The employer shall develop and implement

a written safety and health program for employees involved in hazardous waste operations that shall be available for inspection by employees, their representatives and OSHA personnel. The program shall be designed to identify, evaluate and control safety and health hazards in their facilities for the purpose of employee protection, to provide for emergency response meeting the requirements of paragraph (p)(8) of this section and to address as appropriate site analysis, engineering controls, maximum exposure limits, hazardous waste handling procedures and uses of new technologies.

(2) *Hazard communication program.* The employer shall implement a hazard communication program meeting the requirements of 29 CFR 1926.59 as part of the employer's safety and program.

Note to 1926.65—The exemption for hazardous waste provided in § 1926.59 is applicable to this section.

(3) *Medical surveillance program.* The employer shall develop and implement a medical surveillance program meeting the requirements of paragraph (f) of this section.

(4) *Decontamination program.* The employer shall develop and implement a decontamination procedure meeting the requirements of paragraph (k) of this section.

(5) *New technology program.* The employer shall develop and implement procedures meeting the requirements of paragraph (o) of this section for introducing new and innovative equipment into the workplace.

(6) *Material handling program.* Where employees will be handling drums or containers, the employer shall develop and implement procedures meeting the requirements of paragraphs (j)(1) (ii) through (viii) and (xi) of this section, as well as (j)(3) and (j)(8) of this section prior to starting such work.

(7) *Training program*—(i) *New employees.* The employer shall develop and implement a training program, which is part of the employer's safety and health program, for employees exposed to health hazards or hazardous substances at TSD operations to enable the employees to perform their assigned duties and functions in a safe and healthful manner so as not endanger themselves or other employees. The initial training shall be for 24 hours and refresher training shall be for eight hours annually. Employees who have received the initial training required by this paragraph shall be given a written certificate attesting that they have successfully completed the necessary training.

(ii) *Current employees.* Employers who can show by an employee's previous work experience and/or training that the employee has had training equivalent to the initial training required by this paragraph, shall be considered as meeting the initial training requirements of this paragraph as to that employee. Equivalent training includes the training that existing employees might have already received from actual site work experience. Current employees shall receive eight hours of refresher training annually.

(iii) *Trainers.* Trainers who teach initial training shall have satisfactorily completed a training course for teaching the subjects they are expected to teach or they shall have the academic credentials and instruction experience necessary to demonstrate a good command of the subject matter of the courses and competent instructional skills.

(8) *Emergency response program*—(i) *Emergency response plan.* An emergency response plan shall be developed and implemented by all employers. Such plans need not duplicate any of the subjects fully addressed in the employer's contingency planning required by permits, such as those issued by the U.S. Environmental Protection Agency, provided that the contingency plan is made part of the emergency response plan. The emergency response plan shall be a written portion of the employers safety and health program required in paragraph (p)(1) of this section. Employers who will evacuate their employees from the worksite location when an emergency occurs and who do not permit any of their employees to assist in handling the emergency are exempt from the requirements of paragraph (p)(8) if they provide an emergency action plan complying with § 1926.35 of this part.

(ii) *Elements of an emergency response plan.* The employer shall develop an emergency response plan for emergencies which shall address, as a minimum, the following areas to the extent that they are not addressed in any specific program required in this paragraph:

(A) Pre-emergency planning and coordination with outside parties.

(B) Personnel roles, lines of authority, and communication.

(C) Emergency recognition and prevention.

(D) Safe distances and places of refuge.

(E) Site security and control.

(F) Evacuation routes and procedures.

(G) Decontamination procedures.

(H) Emergency medical treatment and first aid.

(I) Emergency alerting and response procedures.

(J) Critique of response and follow-up.

(K) PPE and emergency equipment.

(iii) *Training.* (A) Training for emergency response employees shall be completed before they are called upon to perform in real emergencies. Such training shall include the elements of the emergency response plan, standard operating procedures the employer has established for the job, the personal protective equipment to be worn and procedures for handling emergency incidents.

Exception #1: An employer need not train all employees to the degree specified if the employer divides the work force in a manner such that a sufficient number of employees who have responsibility to control emergencies have the training specified, and all other employees, who may first respond to an emergency incident, have sufficient awareness training to recognize that an emergency response situation exists and that they are instructed in that case to summon the fully trained employees and not attempt control activities for which they are not trained.

Exception #2: An employer need not train all employees to the degree specified if arrangements have been made in advance for an outside fully-trained emergency response team to respond in a reasonable period and all employees, who may come to the incident first, have sufficient awareness training to recognize that an emergency response situation exists and they have been instructed to call the designated outside fully-trained emergency response team for assistance.

(B) Employee members of TSD facility emergency response organizations shall be trained to a level of competence in the recognition of health and safety hazards to protect themselves and other employees. This would include training in the methods used to minimize the risk from safety and health hazards; in the safe use of control equipment; in the selection and use of appropriate personal protective equipment; in the safe operating procedures to be used at the incident scene; in the techniques of coordination with other employees to minimize risks; in the appropriate response to over exposure from health hazards or injury to themselves and other employees; and in the recognition of subsequent symptoms which may result from over exposures.

(C) The employer shall certify that each covered employee has attended and successfully completed the training required in paragraph (p)(8)(iii) of this section, or shall certify the employee's competency at least yearly. The method used to demonstrate competency for

certification of training shall be recorded and maintained by the employer.

(iv) *Procedures for handling emergency incidents.* (A) In addition to the elements for the emergency response plan required in paragraph (p)(8)(ii) of this section, the following elements shall be included for emergency response plans to the extent that they do not repeat any information already contained in the emergency response plan:

(*1*) Site topography, layout, and prevailing weather conditions.

(*2*) Procedures for reporting incidents to local, state, and federal governmental agencies.

(B) The emergency response plan shall be compatible and integrated with the disaster, fire and/or emergency response plans of local, state, and federal agencies.

(C) The emergency response plan shall be rehearsed regularly as part of the overall training program for site operations.

(D) The site emergency response plan shall be reviewed periodically and, as necessary, be amended to keep it current with new or changing site conditions or information.

(E) An employee alarm system shall be installed in accordance with 29 CFR 1926.159 to notify employees of an emergency situation; to stop work activities if necessary; to lower background noise in order to speed communication; and to begin emergency procedures.

(F) Based upon the information available at time of the emergency, the employer shall evaluate the incident and the site response capabilities and proceed with the appropriate steps to implement the site emergency response plan.

(q) *Emergency response to hazardous substance releases.* This paragraph covers employers whose employees are engaged in emergency response no matter where it occurs except that it does not cover employees engaged in operations specified in paragraphs (a)(1)(i) through (a)(1)(iv) of this section. Those emergency response organizations who have developed and implemented programs equivalent to this paragraph for handling releases of hazardous substances pursuant to section 303 of the Superfund Amendments and Reauthorization Act of 1986 (Emergency Planning and Community Right-to-Know Act of 1986, 42 U.S.C. 11003) shall be deemed to have met the requirements of this paragraph.

(1) *Emergency response plan.* An emergency response plan shall be developed and implemented to handle anticipated emergencies prior to the commencement of emergency response operations. The plan shall be in writing and available for inspection and copying by employees, their representatives and OSHA personnel. Employers who will evacuate their employees from the danger area when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of this paragraph if they provide an emergency action plan in accordance with § 1926.35 of this part.

(2) *Elements of an emergency response plan.* The employer shall develop an emergency response plan for emergencies which shall address, as a minimum, the following to the extent that they are not addressed elsewhere:

(i) Pre-emergency planning and coordination with outside parties.

(ii) Personnel roles, lines of authority, training, and communication.

(iii) Emergency recognition and prevention.

(iv) Safe distances and places of refuge.

(v) Site security and control.

(vi) Evacuation routes and procedures.

(vii) Decontamination.

(viii) Emergency medical treatment and first aid.

(ix) Emergency alerting and response procedures.

(x) Critique of response and follow-up.

(xi) PPE and emergency equipment.

(xii) Emergency response organizations may use the local emergency response plan or the state emergency response plan or both, as part of their emergency response plan to avoid duplication. Those items of the emergency response plan that are being properly addressed by the SARA Title III plans may be substituted into their emergency plan or otherwise kept together for the employer and employee's use.

(3) *Procedures for handling emergency response.* (i) The senior emergency response official responding to an emergency shall become the individual in charge of a site-specific Incident Command System (ICS). All emergency responders and their communications shall be coordinated and controlled through the individual in charge of the ICS assisted by the senior official present for each employer.

Note to (q)(3)(i).—The "senior official" at an emergency response is the most senior official on the site who has the responsibility for controlling the operations at the site. Initially it is the senior officer on the first-due piece of responding emergency apparatus to arrive on the incident scene. As more senior officers arrive (i.e., battalion chief, fire chief, state law enforcement official, site coordinator, etc.) the position is passed up the line of authority which has been previously established.

(ii) The individual in charge of the ICS shall identify, to the extent possible, all hazardous substances or conditions present and shall address as appropriate site analysis, use of engineering controls, maximum exposure limits, hazardous substance handling procedures, and use of any new technologies.

(iii) Based on the hazardous substances and/or conditions present, the individual in charge of the ICS shall implement appropriate emergency operations, and assure that the personal protective equipment worn is appropriate for the hazards to be encountered. However, personal protective equipment shall meet, at a minimum, the criteria contained in 29 CFR 1926.97 when worn while performing fire fighting operations beyond the incipient stage for any incident.

(iv) Employees engaged in emergency response and exposed to hazardous substances presenting an inhalation hazard or potential inhalation hazard shall wear positive pressure self-contained breathing apparatus while engaged in emergency response, until such time that the individual in charge of the ICS determines through the use of air monitoring that a decreased level of respiratory protection will not result in hazardous exposures to employees.

(v) The individual in charge of the ICS shall limit the number of emergency response personnel at the emergency site, in those areas of potential or actual exposure to incident or site hazards, to those who are actively performing emergency operations. However, operations in hazardous areas shall be performed using the buddy system in groups of two or more.

(vi) Back-up personnel shall stand by with equipment ready to provide assistance or rescue. Advance first aid support personnel, as a minimum, shall also stand by with medical equipment and transportation capability.

(vii) The individual in charge of the ICS shall designate a safety official, who is knowledgable in the operations being implemented at the emergency response site, with specific responsibility to identify and evaluate hazards and to provide direction with respect to the safety of operations for the emergency at hand.

(viii) When activities are judged by the safety official to be an IDLH

condition and/or to involve an imminent danger condition, the safety official shall have the authority to alter, suspend, or terminate those activities. The safety official shall immediately inform the individual in charge of the ICS of any actions needed to be taken to correct these hazards at the emergency scene.

(ix) After emergency operations have terminated, the individual in charge of the ICS shall implement appropriate decontamination procedures.

(x) When deemed necessary for meeting the tasks at hand, approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet U.S. Department of Transportation and National Institute for Occupational Safety and Health criteria.

(4) *Skilled support personnel.* Personnel, not necessarily an employer's own employees, who are skilled in the operation of certain equipment, such as mechanized earth moving or digging equipment or crane and hoisting equipment, and who are needed temporarily to perform immediate emergency support work that cannot reasonably be performed in a timely fashion by an employer's own employees, and who will be or may be exposed to the hazards at an emergency response scene, are not required to meet the training required in this paragraph for the employer's regular employees. However, these personnel shall be given an initial briefing at the site prior to their participation in any emergency response. The initial briefing shall include instruction in the wearing of appropriate personal protective equipment, what chemical hazards are involved, and what duties are to be performed. All other appropriate safety and health precautions provided to the employer's own employees shall be used to assure the safety and health of these personnel.

(5) *Specialist employees.* Employees who, in the course of their regular job duties, work with and are trained in the hazards of specific hazardous substances, and who will be called upon to provide technical advice or assistance at a hazardous substance release incident to the individual in charge, shall receive training or demonstrate competency in the area of their specialization annually.

(6) *Training.* Training shall be based on the duties and function to be performed by each responder of an emergency response organization. The skill and knowledge levels required for all new responders, those hired after the effective date of this standard, shall be conveyed to them through training before they are permitted to take part in actual emergency operations on an incident. Employees who participate, or are expected to participate, in emergency response, shall be given training in accordance with the following paragraphs:

(i) *First responder awareness level.* First responders at the awareness level are individuals who are likely to witness or discover a hazardous substance release and who have been trained to initiate an emergency response sequence by notifying the proper authorities of the release. They would take no further action beyond notifying the authorities of the release. First responders at the awareness level shall have sufficient training or have had sufficient experience to objectively demonstrate competency in the following areas:

(A) An understanding of what hazardous substances are, and the risks associated with them in an incident.

(B) An understanding of the potential outcomes associated with an emergency created when hazardous substances are present.

(C) The ability to recognize the presence of hazardous substances in an emergency.

(D) The ability to identify the hazardous substances, if possible.

(E) An understanding of the role of the first responder awareness individual in the employer's emergency response plan including site security and control and the U.S. Department of Transportation's Emergency Response Guidebook.

(F) The ability to realize the need for additional resources, and to make appropriate notifications to the communication center.

(ii) *First responder operations level.* First responders at the operations level are individuals who respond to releases or potential releases of hazardous substances as part of the initial response to the site for the purpose of protecting nearby persons, property, or the environment from the effects of the release. They are trained to respond in a defensive fashion without actually trying to stop the release. Their function is to contain the release from a safe distance, keep it from spreading, and prevent exposures. First responders at the operational level shall have received at least eight hours of training or have had sufficient experience to objectively demonstrate competency in the following areas in addition to those listed for the awareness level and the employer shall so certify:

(A) Knowledge of the basic hazard and risk assessment techniques.

(B) Know how to select and use proper personal protective equipment provided to the first responder operational level.

(C) An understanding of basic hazardous materials terms.

(D) Know how to perform basic control, containment and/or confinement operations within the capabilities of the resources and personal protective equipment available with their unit.

(E) Know how to implement basic decontamination procedures.

(F) An understanding of the relevant standard operating procedures and termination procedures.

(iii) *Hazardous materials technician.* Hazardous materials technicians are individuals who respond to releases or potential releases for the purpose of stopping the release. They assume a more aggressive role than a first responder at the operations level in that they will approach the point of release in order to plug, patch or otherwise stop the release of a hazardous substance. Hazardous materials technicians shall have received at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

(A) Know how to implement the employer's emergency response plan.

(B) Know the classification, identification and verification of known and unknown materials by using field survey instruments and equipment.

(C) Be able to function within an assigned role in the Incident Command System.

(D) Know how to select and use proper specialized chemical personal protective equipment provided to the hazardous materials technician.

(E) Understand hazard and risk assessment techniques.

(F) Be able to perform advance control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available with the unit.

(G) Understand and implement decontamination procedures.

(H) Understand termination procedures.

(I) Understand basic chemical and toxicological terminology and behavior.

(iv) *Hazardous materials specialist.* Hazardous materials specialists are individuals who respond with and provide support to hazardous materials

technicians. Their duties parallel those of the hazardous materials technician, however, those duties require a more directed or specific knowledge of the various substances they may be called upon to contain. The hazardous materials specialist would also act as the site liaison with Federal, state, local and other government authorities in regards to site activities. Hazardous materials specialists shall have received at least 24 hours of training equal to the technician level and in addition have competency in the following areas and the employer shall so certify:

(A) Know how to implement the local emergency response plan.

(B) Understand classification, identification and verification of known and unknown materials by using advanced survey instruments and equipment.

(C) Know of the state emergency response plan.

(D) Be able to select and use proper specialized chemical personal protective equipment provided to the hazardous materials specialist.

(E) Understand in-depth hazard and risk techniques.

(F) Be able to perform specialized control, containment, and/or confinement operations within the capabilities of the resources and personal protective equipment available.

(G) Be able to determine and implement decontamination procedures.

(H) Have the ability to develop a site safety and control plan.

(I) Understand chemical, radiological and toxicological terminology and behavior.

(v) *On scene incident commander.* Incident commanders, who will assume control of the incident scene beyond the first responder awareness level, shall receive at least 24 hours of training equal to the first responder operations level and in addition have competency in the following areas and the employer shall so certify:

(A) Know and be able to implement the employer's incident command system.

(B) Know how to implement the employer's emergency response plan.

(C) Know and understand the hazards and risks associated with employees working in chemical protective clothing.

(D) Know how to implement the local emergency response plan.

(E) Know of the state emergency response plan and of the Federal Regional Response Team.

(F) Know and understand the importance of decontamination procedures.

(7) *Trainers.* Trainers who teach any of the above training subjects shall have satisfactorily completed a training course for teaching the subjects they are expected to teach, such as the courses offered by the U.S. National Fire Academy, or they shall have the training and/or academic credentials and instructional experience necessary to demonstrate competent instructional skills and a good command of the subject matter of the courses they are to teach.

(8) *Refresher training.* (i) Those employees who are trained in accordance with paragraph (q)(6) of this section shall receive annual refresher training of sufficient content and duration to maintain their competencies, or shall demonstrate competency in those areas at least yearly.

(ii) A statement shall be made of the training or competency, and if a statement of competency is made, the employer shall keep a record of the methodology used to demonstrate competency.

(9) *Medical surveillance and consultation.* (i) Members of an organized and designated HAZMAT team and hazardous materials specialists shall receive a baseline physical examination and be provided with medical surveillance as required in paragraph (f) of this section.

(ii) Any emergency response employees who exhibits signs or symptoms which may have resulted from exposure to hazardous substances during the course of an emergency incident, either immediately or subsequently, shall be provided with medical consultation as required in paragraph (f)(3)(ii) of this section.

(10) *Chemical protective clothing.* Chemical protective clothing and equipment to be used by organized and designated HAZMAT team members, or to be used by hazardous materials specialists, shall meet the requirements of paragraphs (g) (3) through (5) of this section.

(11) *Post-emergency response operations.* Upon completion of the emergency response, if it is determined that it is necessary to remove hazardous substances, health hazards, and materials contaminated with them (such as contaminated soil or other elements of the natural environment) from the site of the incident, the employer conducting the clean-up shall comply with one of the following:

(i) Meet all of the requirements of paragraphs (b) through (o) of this section; or

(ii) Where the clean-up is done on plant property using plant or workplace employees, such employees shall have completed the training requirements of the following: 29 CFR 1926.35, 1926.59, and 1926.103, and other appropriate safety and health training made necessary by the tasks that they are expected to be performed such as personal protective equipment and decontamination procedures. All equipment to be used in the performance of the clean-up work shall be in serviceable condition and shall have been inspected prior to use.

Appendices to § 1926.65—Hazardous Waste Operations and Emergency Response

Note: The following appendices serve as non-mandatory guidelines to assist employees and employers in complying with the appropriate requirements of this section. However § 1926.65(g) makes mandatory in certain circumstances the use of Level A and Level B PPE protection.

Appendix A to § 1926.65—Personal Protective Equipment Test Methods

This appendix sets forth the non-mandatory examples of tests which may be used to evaluate compliance with § 1926.65(g)(4) (ii) and (iii). Other tests and other challenge agents may be used to evaluate compliance.

A. Totally-encapsulating chemical protective suit pressure test

1.0—Scope

1.1 This practice measures the ability of a gas tight totally-encapsulating chemical protective suit material, seams, and closures to maintain a fixed positive pressure. The results of this practice allow the gas tight integrity of a totally-encapsulating chemical protective suit to be evaluated.

1.2 Resistance of the suit materials to permeation, penetration, and degradation by specific hazardous substances is not determined by this test method.

2.0—Definition of terms

2.1 *Totally-encapsulated chemical protective suit (TECP suit)* means a full body garment which is constructed of protective clothing materials; covers the wearer's torso, head, arms, legs and respirator; may cover the wearer's hands and feet with tightly attached gloves and boots; completely encloses the wearer and respirator by itself or in combination with the wearer's gloves and boots.

2.2 *Protective clothing material* means any material or combination of materials used in an item of clothing for the purpose of isolating parts of the body from direct contact with a potentially hazardous liquid or gaseous chemicals.

2.3 *Gas tight* means, for the purpose of this test method, the limited flow of a gas under pressure from the inside of a TECP suit to atmosphere at a prescribed pressure and time interval.

3.0—Summary of test method

3.1 The TECP suit is visually inspected and modified for the test. The test apparatus is attached to the suit to permit inflation to the pre-test suit expansion pressure for removal of suit wrinkles and creases. The pressure is

lowered to the test pressure and monitored for three minutes. If the pressure drop is excessive, the TECP suit fails the test and is removed from service. The test is repeated after leak location and repair.

4.0—Required Supplies

4.1 Source of compressed air.

4.2 Test apparatus for suit testing, including a pressure measurement device with a sensitivity of at least ¼ inch water gauge.

4.3 Vent valve closure plugs or sealing tape.

4.4 Soapy water solution and soft brush.

4.5 Stop watch or appropriate timing device.

5.0—Safety Precautions

5.1 Care shall be taken to provide the correct pressure safety devices required for the source of compressed air used.

6.0—Test Procedure

6.1 Prior to each test, the tester shall perform a visual inspection of the suit. Check the suit for seam integrity by visually examining the seams and gently pulling on the seams. Ensure that all air supply lines, fittings, visor, zippers, and valves are secure and show no signs of deterioration.

6.1.1 Seal off the vent valves along with any other normal inlet or exhaust points (such as umbilical air line fittings or face piece opening) with tape or other appropriate means (caps, plugs, fixture, etc.). Care should be exercised in the sealing process not to damage any of the suit components.

6.1.2 Close all closure assemblies.

6.1.3 Prepare the suit for inflation by providing an improvised connection point on the suit for connecting an airline. Attach the pressure test apparatus to the suit to permit suit inflation from a compressed air source equipped with a pressure indicating regulator. The leak tightness of the pressure test apparatus should be tested before and after each test by closing off the end of the tubing attached to the suit and assuring a pressure of three inches water gauge for three minutes can be maintained. If a component is removed for the test, that component shall be replaced and a second test conducted with another component removed to permit a complete test of the ensemble.

6.1.4 The pre-test expansion pressure (A) and the suit test pressure (B) shall be supplied by the suit manufacturer, but in no case shall they be less than: (A)=three inches water gauge; and (B)=two inches water gauge. The ending suit pressure (C) shall be no less than 80 percent of the test pressure (B); i.e., the pressure drop shall not exceed 20 percent of the test pressure (B).

6.1.5 Inflate the suit until the pressure inside is equal to pressure (A), the pre-test expansion suit pressure. Allow at least one minute to fill out the wrinkles in the suit. Release sufficient air to reduce the suit pressure to pressure (B), the suit test pressure. Begin timing. At the end of three minutes, record the suit pressure as pressure (C), the ending suit pressure. The difference between the suit test pressure and the ending suit test pressure (B–C) shall be defined as the suit pressure drop.

6.1.6 If the suit pressure drop is more than 20 percent of the suit test pressure (B) during the three-minute test period, the suit fails the test and shall be removed from service.

7.0—Retest Procedure

7.1 If the suit fails the test check for leaks by inflating the suit to pressure (A) and brushing or wiping the entire suit (including seams, closures, lens gaskets, glove-to-sleeve joints, etc.) with a mild soap and water solution. Observe the suit for the formation of soap bubbles, which is an indication of a leak. Repair all identified leaks.

7.2 Retest the TECP suit as outlined in Test procedure 6.0.

8.0—Report

8.1 Each TECP suit tested by this practice shall have the following information recorded:

8.1.1 Unique identification number, identifying brand name, date of purchase, material of construction, and unique fit features, e.g., special breathing apparatus.

8.1.2 The actual values for test pressures (A), (B), and (C) shall be recorded along with the specific observation times. If the ending pressure (C) is less than 80 percent of the test pressure (B), the suit shall be identified as failing the test. When possible, the specific leak location shall be identified in the test records. Retest pressure data shall be recorded as an additional test.

8.1.3 The source of the test apparatus used shall be identified and the sensitivity of the pressure gauge shall be recorded.

8.1.4 Records shall be kept for each pressure test even if repairs are being made at the test location.

CAUTION

Visually inspect all parts of the suit to be sure they are positioned correctly and secured tightly before putting the suit back into service. Special care should be taken to examine each exhaust valve to make sure it is not blocked.

Care should also be exercised to assure that the inside and outside of the suit is completely dry before it is put into storage.

B. Totally-encapsulating chemical protective suit qualitative leak test

1.0—Scope

1.1 This practice semi-qualitatively tests gas tight totally-encapsulating chemical protective suit integrity by detecting inward leakage of ammonia vapor. Since no modifications are made to the suit to carry out this test, the results from this practice provide a realistic test for the integrity of the entire suit.

1.2 Resistance of the suit materials to permeation, penetration, and degradation is not determined by this test method. ASTM test methods are available to test suit materials for these characteristics and the tests are usually conducted by the manufacturers of the suits.

2.0—Definition of terms

2.1 *Totally-encapsulated chemical protective suit (TECP suit)* means a full body garment which is constructed of protective clothing materials; covers the wearer's torso, head, arms, legs and respirator; may cover the wearer's hands and feet with tightly attached gloves and boots; completely encloses the wearer and respirator by itself or in combination with the wearer's gloves, and boots.

2.2 *Protective clothing material* means any material or combination of materials used in an item of clothing for the purpose of isolating parts of the body from direct contact with a potentially hazardous liquid or gaseous chemicals.

2.3 *Gas tight* means, for the purpose of this test method, the limited flow of a gas under pressure from the inside of a TECP suit to atmosphere at a prescribed pressure and time interval.

2.4 *Intrusion Coefficient* means a number expressing the level of protection provided by a gas tight totally-encapsulating chemical protective suit. The intrusion coefficient is calculated by dividing the test room challenge agent concentration by the concentration of challenge agent found inside the suit. The accuracy of the intrusion coefficient is dependent on the challenge agent monitoring methods. The larger the intrusion coefficient the greater the protection provided by the TECP suit.

3.0—Summary of recommended practice

3.1 The volume of concentrated aqueous ammonia solution (ammonia hydroxide NH_4OH) required to generate the test atmosphere is determined using the directions outlined in 6.1. The suit is donned by a person wearing the appropriate respiratory equipment (either a positive pressure self-contained breathing apparatus or a positive pressure supplied air respirator) and worn inside the enclosed test room. The concentrated aqueous ammonia solution is taken by the suited individual into the test room and poured into an open plastic pan. A two-minute evaporation period is observed before the test room concentration is measured, using a high range ammonia length of stain detector tube. When the ammonia vapor reaches a concentration of between 1000 and 1200 ppm, the suited individual starts a standardized exercise protocol to stress and flex the suit. After this protocol is completed, the test room concentration is measured again. The suited individual exits the test room and his stand-by person measures the ammonia concentration inside the suit using a low range ammonia length of stain detector tube or other more sensitive ammonia detector. A stand-by person is required to observe the test individual during the test procedure; aid the person in donning and doffing the TECP suit; and monitor the suit interior. The intrusion coefficient of the suit can be calculated by dividing the average test area concentration by the interior suit concentration. A colorimetric ammonia indicator strip of bromophenol blue or equivalent is placed on the inside of the suit face piece lens so that the suited individual is able to detect a color change and know if the suit has a significant leak. If a color change is observed the individual shall leave the test room immediately.

4.0—Required supplies

4.1 A supply of concentrated aqueous ammonium hydroxide (58% by weight).

4.2 A supply of bromophenol/blue indicating paper or equivalent, sensitive to 5–10 ppm ammonia or greater over a two-minute period of exposure. [pH 3.0 (yellow) to pH 4.6 (blue)]

4.3 A supply of high range (0.5–10 volume percent) and low range (5–700 ppm) detector tubes for ammonia and the corresponding

sampling pump. More sensitive ammonia detectors can be substituted for the low range detector tubes to improve the sensitivity of this practice.

4.4 A shallow plastic pan (PVC) at least 12":14":1" and a half pint plastic container (PVC) with tightly closing lid.

4.5 A graduated cylinder or other volumetric measuring device of at least 50 milliliters in volume with an accuracy of at least ±1 milliliters.

5.0—Safety precautions

5.1 Concentrated aqueous ammonium hydroxide, NH_4OH, is a corrosive volatile liquid requiring eye, skin, and respiratory protection. The person conducting the test shall review the MSDS for aqueous ammonia.

5.2 Since the established permissible exposure limit for ammonia is 35 ppm as a 15 minute STEL, only persons wearing a positive pressure self-contained breathing apparatus or a positive pressure supplied air respirator shall be in the chamber. Normally only the person wearing the totally-encapsulating suit will be inside the chamber. A stand-by person shall have a positive pressure self-contained breathing apparatus, or a positive pressure supplied air respirator available to enter the test area should the suited individual need assistance.

5.3 A method to monitor the suited individual must be used during this test. Visual contact is the simplest but other methods using communication devices are acceptable.

5.4 The test room shall be large enough to allow the exercise protocol to be carried out and then to be ventilated to allow for easy exhaust of the ammonia test atmosphere after the test(s) are completed.

5.5 Individuals shall be medically screened for the use of respiratory protection and checked for allergies to ammonia before participating in this test procedure.

6.0—Test procedure

6.1.1 Measure the test area to the nearest foot and calculate its volume in cubic feet. Multiply the test area volume by 0.2 milliliters of concentrated aqueous ammonia solution per cubic foot of test area volume to determine the approximate volume of concentrated aqueous ammonia required to generate 1000 ppm in the test area.

6.1.2 Measure this volume from the supply of concentrated aqueous ammonia and place it into a closed plastic container.

6.1.3 Place the container, several high range ammonia detector tubes, and the pump in the clean test pan and locate it near the test area entry door so that the suited individual has easy access to these supplies.

6.2.1 In a non-contaminated atmosphere, open a pre-sealed ammonia indicator strip and fasten one end of the strip to the inside of the suit face shield lens where it can be seen by the wearer. Moisten the indicator strip with distilled water. Care shall be taken not to contaminate the detector part of the indicator paper by touching it. A small piece of masking tape or equivalent should be used to attach the indicator strip to the interior of the suit face shield.

6.2.2 If problems are encountered with this method of attachment, the indicator strip can be attached to the outside of the respirator face piece lens being used during the test.

6.3 Don the respiratory protective device normally used with the suit, and then don the TECP suit to be tested. Check to be sure all openings which are intended to be sealed (zippers, gloves, etc.) are completely sealed. DO NOT, however, plug off any venting valves.

6.4 Step into the enclosed test room such as a closet, bathroom, or test booth, equipped with an exhaust fan. No air should be exhausted from the chamber during the test because this will dilute the ammonia challenge concentrations.

6.5 Open the container with the pre-measured volume of concentrated aqueous ammonia within the enclosed test room, and pour the liquid into the empty plastic test pan. Wait two minutes to allow for adequate volatilization of the concentrated aqueous ammonia. A small mixing fan can be used near the evaporation pan to increase the evaporation rate of the ammonia solution.

6.6 After two minutes a determination of the ammonia concentration within the chamber should be made using the high range colorimetric detector tube. A concentration of 1000 ppm ammonia or greater shall be generated before the exercises are started.

6.7 To test the integrity of the suit the following four minute exercise protocol should be followed:

6.7.1 Raising the arms above the head with at least 15 raising motions completed in one minute.

6.7.2 Walking in place for one minute with at least 15 raising motions of each leg in a one-minute period.

6.7.3 Touching the toes with a least 10 complete motions of the arms from above the head to touching of the toes in a one-minute period.

6.7.4 Knee bends with at least 10 complete standing and squatting motions in a one-minute period.

6.8 If at any time during the test the colorimetric indicating paper should change colors, the test should be stopped and section 6.10 and 6.12 initiated (See ¶4.2).

6.9 After completion of the test exercise, the test area concentration should be measured again using the high range colorimetric detector tube.

6.10 Exit the test area.

6.11 The opening created by the suit zipper or other appropriate suit penetration should be used to determine the ammonia concentration in the suit with the low range length of stain detector tube or other ammonia monitor. The internal TECP suit air should be sampled far enough from the enclosed test area to prevent a false ammonia reading.

6.12 After completion of the measurement of the suit interior ammonia concentration the test is concluded and the suit is doffed and the respirator removed.

6.13 The ventilating fan for the test room should be turned on and allowed to run for enough time to remove the ammonia gas. The fan shall be vented to the outside of the building.

6.14 Any detectable ammonia in the suit interior (five ppm ammonia (NH_3) or more for the length of stain detector tube) indicates that the suit has failed the test. When other ammonia detectors are used a lower level of detection is possible, and it should be specified as the pass/fail criteria.

6.15 By following this test method, an intrusion coefficient of approximately 200 or more can be measured with the suit in a completely operational condition. If the intrusion coefficient is 200 or more, then the suit is suitable for emergency response and field use.

7.0—Retest procedures

7.1 If the suit fails this test, check for leaks by following the pressure test in test A above.

7.2 Retest the TECP suit as outlined in the test procedure 6.0.

8.0—Report

8.1 Each gas tight totally-encapsulating chemical protective suit tested by this practice shall have the following information recorded.

8.1.1 Unique identification number, identifying brand name, date of purchase, material of construction, and unique suit features; e.g., special breathing apparatus.

8.1.2 General description of test room used for test.

8.1.3 Brand name and purchase date of ammonia detector strips and color change data.

8.1.4 Brand name, sampling range, and expiration date of the length of stain ammonia detector tubes. The brand name and model of the sampling pump should also be recorded. If another type of ammonia detector is used, it should be identified along with its minimum detection limit for ammonia.

8.1.5 Actual test results shall list the two test area concentrations, their average, the interior suit concentration, and the calculated intrusion coefficient. Retest data shall be recorded as an additional test.

8.2 The evaluation of the data shall be specified as "suit passed" or "suit failed," and the date of the test. Any detectable ammonia (five ppm or greater for the length of stain detector tube) in the suit interior indicates the suit has failed this test. When other ammonia detectors are used, a lower level of detection is possible and it should be specified as the pass fail criteria.

CAUTION

Visually inspect all parts of the suit to be sure they are positioned correctly and secured tightly before putting the suit back into service. Special care should be taken to examine each exhaust valve to make sure it is not blocked.

Care should also be exercised to assure that the inside and outside of the suit is completely dry before it is put into storage.

Appendix B to § 1926.65—General Description and Discussion of the Levels of Protection and Protective Gear

This appendix sets forth information about personal protective equipment (PPE) protection levels which may be used to assist employers in complying with the PPE requirements of this section.

As required by the standard, PPE must be selected which will protect employees from

the specific hazards which they are likely to encounter during their work on-site.

Selection of the appropriate PPE is a complex process which should take into consideration a variety of factors. Key factors involved in this process are identification of the hazards, or suspected hazards; their routes of potential hazard to employees (inhalation, skin absorption, ingestion, and eye or skin contact); and the performance of the PPE *materials* (and seams) in providing a barrier to these hazards. The amount of protection provided by PPE is material-hazard specific. That is, protective equipment materials will protect well against some hazardous substances and poorly, or not at all, against others. In many instances, protective equipment materials cannot be found which will provide continuous protection from the particular hazardous substance. In these cases the breakthrough time of the protective material should exceed the work durations.

Other factors in this selection process to be considered are matching the PPE to the employee's work requirements and task-specific conditions. The durability of PPE materials, such as tear strength and seam strength, should be considered in relation to the employee's tasks. The effects of PPE in relation to heat stress and task duration are a factor in selecting and using PPE. In some cases layers of PPE may be necessary to provide sufficient protection, or to protect expensive PPE inner garments, suits or equipment.

The more that is known about the hazards at the site, the easier the job of PPE selection becomes. As more information about the hazards and conditions at the site becomes available, the site supervisor can make decisions to up-grade or down-grade the level of PPE protection to match the tasks at hand.

The following are guidelines which an employer can use to begin the selection of the appropriate PPE. As noted above, the site information may suggest the use of combinations of PPE selected from the different protection levels (i.e., A, B, C, or D) as being more suitable to the hazards of the work. It should be cautioned that the listing below does not fully address the performance of the specific PPE material in relation to the specific hazards at the job site, and that PPE selection, evaluation and re-selection is an ongoing process until sufficient information about the hazards and PPE performance is obtained.

Part A. Personal protective equipment is divided into four categories based on the degree of protection afforded. (See Part B of this appendix for further explanation of Levels A, B, C, and D hazards.)

I. *Level A*—To be selected when the greatest level of skin, respiratory, and eye protection is required.

The following constitute Level A equipment; it may be used as appropriate;

1. Positive pressure, full face-piece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA, approved by the National Institute for Occupational Safety and Health (NIOSH).

2. Totally-encapsulating chemical-protective suit.

3. Coveralls.[1]

4. Long underwear.[1]

5. Gloves, outer, chemical-resistant.

6. Gloves, inner, chemical-resistant.

7. Boots, chemical-resistant, steel toe and shank.

8. Hard hat (under suit).[1]

9. Disposable protective suit, gloves and boots (depending on suit construction, may be worn over totally-encapsulating suit).

II. *Level B*—The highest level of respiratory protection is necessary but a lesser level of skin protection is needed.

The following constitute Level B equipment; it may be used as appropriate.

1. Positive pressure, full-facepiece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

2. Hooded chemical-resistant clothing (overalls and long-sleeved jacket; coveralls; one or two-piece chemical-splash suit; disposable chemical-resistant overalls).

3. Coveralls.[1]

4. Gloves, outer, chemical-resistant.

5. Gloves, inner, chemical-resistant.

6. Boots, outer, chemical-resistant steel toe and shank.

7. Boot-covers, outer, chemical-resistant (disposable).[1]

8. Hard hat.[1]

9. [Reserved]

10. Face shield.[1]

III. *Level C*—The concentration(s) and type(s) of airborne substance(s) is known and the criteria for using air purifying respirators are met.

The following constitute Level C equipment; it may be used as appropriate.

1. Full-face or half-mask, air purifying respirators (NIOSH approved).

2. Hooded chemical-resistant clothing (overalls; two-piece chemical-splash suit; disposable chemical-resistant overalls).

3. Coveralls.[1]

4. Gloves, outer, chemical-resistant.

5. Gloves, inner, chemical-resistant.

6. Boots (outer), chemical-resistant steel toe and shank.[1]

7. Boot-covers, outer, chemical-resistant (disposable)[1].

8. Hard hat.[1]

9. Escape mask.[1]

10. Face shield.[1]

IV. *Level D*—A work uniform affording minimal protection, used for nuisance contamination only.

The following constitute Level D equipment; it may be used as appropriate:

1. Coveralls.

2. Gloves.[1]

3. Boots/shoes, chemical-resistant steel toe and shank.

4. Boots, outer, chemical-resistant (disposable).[1]

5. Safety glasses or chemical splash goggles*.

6. Hard hat.[1]

7. Escape mask.[1]

8. Face shield.[1]

Part B. The types of hazards for which levels A, B, C, and D protection are appropriate are described below:

I. *Level A*—Level A protection should be used when:

1. The hazardous substance has been identified and requires the highest level of protection for skin, eyes, and the respiratory system based on either the measured (or potential for) high concentration of atmospheric vapors, gases, or particulates; or the site operations and work functions involve a high potential for splash, immersion, or exposure to unexpected vapors, gases, or particulates of materials that are harmful to skin or capable of being absorbed through the skin;

2. Substances with a high degree of hazard to the skin are known or suspected to be present, and skin contact is possible; or

3. Operations are being conducted in confined, poorly ventilated areas, and the absence of conditions requiring Level A have not yet been determined.

II. *Level B*—Level B protection should be used when:

1. The type and atmospheric concentration of substances have been identified and require a high level of respiratory protection, but less skin protection;

2. The atmosphere contains less than 19.5 percent oxygen; or

3. The presence of incompletely identified vapors or gases is indicated by a direct-reading organic vapor detection instrument, but vapors and gases are not suspected of containing high levels of chemicals harmful to skin or capable of being absorbed through the skin.

Note: This involves atmospheres with IDLH concentrations of specific substances that present severe inhalation hazards and that do not represent a severe skin hazard; or that do not meet the criteria for use of air-purifying respirators.

III. *Level C*—Level C protection should be used when:

1. The atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect or be absorbed through any exposed skin;

2. The types of air contaminants have been identified, concentrations measured, and an air-purifying respirator is available that can remove the contaminants; and

3. All criteria for the use of air-purifying respirators are met.

IV. *Level D*—Level D protection should be used when:

1. The atmosphere contains no known hazard; and

2. Work functions preclude splashes, immersion, or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals.

Note: As stated before, combinations of personal protective equipment other than those described for Levels A, B, C, and D protection may be more appropriate and may be used to provide the proper level of protection.

As an aid in selecting suitable chemical protective clothing, it should be noted that the National Fire Protection Association is developing standards on chemical protective clothing. These standards are currently undergoing public review prior to adoption, including:

[1] Optional, as applicable.

NFPA 1991—Standard on Vapor-Protective Suits for Hazardous Chemical Emergencies (EPA Level A Protective Clothing)

NFPA 1992—Standard on Liquid Splash-Protective Suits for Hazardous Chemical Emergencies (EPA Level B Protective Clothing)

NFPA 1993—Standard on Liquid Splash-Protective Suits for Non-emergency, Non-flammable Hazardous Chemical Situations (EPA Level B Protective Clothing)

These standards would apply documentation and performance requirements to the manufacture of chemical protective suits. Chemical protective suits meeting these requirements would be labelled as compliant with the appropriate standard. When these standards are adopted by the National Fire Protection Association, it is recommended that chemical protective suits which meet these standards be used.

Appendix C to § 1926.65—Compliance Guidelines

1. *Occupational Safety and Health Program.* Each hazardous waste site clean-up effort will require an occupational safety and health program headed by the site coordinator or the employer's representative. The purpose of the program will be the protection of employees at the site and will be an extension of the employer's overall safety and health program. The program will need to be developed before work begins on the site and implemented as work proceeds as stated in paragraph (b). The program is to facilitate coordination and communication of safety and health issues among personnel responsible for the various activities which will take place at the site. It will provide the overall means for planning and implementing the needed safety and health training and job orientation of employees who will be working at the site. The program will provide the means for identifying and controlling worksite hazards and the means for monitoring program effectiveness. The program will need to cover the responsibilities and authority of the site coordinator or the employer's manager on the site for the safety and health of employees at the site, and the relationships with contractors or support services as to what each employer's safety and health responsibilities are for their employees on the site. Each contractor on the site needs to have its own safety and health program so structured that it will smoothly interface with the program of the site coordinator or principal contractor.

Also those employers involved with treating, storing or disposal of hazardous waste as covered in paragraph (p) must have implemented a safety and health program for their employees. This program is to include the hazard communication program required in paragraph (p)(1) and the training required in paragraphs (p)(7) and (p)(8) as parts of the employers comprehensive overall safety and health program. This program is to be in writing.

Each site or workplace safety and health program will need to include the following: (1) Policy statements of the line of authority and accountability for implementing the program, the objectives of the program and the role of the site safety and health supervisor or manager and staff; (2) means or methods for the development of procedures for identifying and controlling workplace hazards at the site; (3) means or methods for the development and communication to employees of the various plans, work rules, standard operating procedures and practices that pertain to individual employees and supervisors; (4) means for the training of supervisors and employees to develop the needed skills and knowledge to perform their work in a safe and healthful manner; (5) means to anticipate and prepare for emergency situations; and (6) means for obtaining information feedback to aid in evaluating the program and for improving the effectiveness of the program. The management and employees should be trying continually to improve the effectiveness of the program thereby enhancing the protection being afforded those working on the site.

Accidents on the site or workplace should be investigated to provide information on how such occurrences can be avoided in the future. When injuries or illnesses occur on the site or workplace, they will need to be investigated to determine what needs to be done to prevent this incident from occurring again. Such information will need to be used as feedback on the effectiveness of the program and the information turned into positive steps to prevent any reoccurrence. Receipt of employee suggestions or complaints relating to safety and health issues involved with site or workplace activities is also a feedback mechanism that can be used effectively to improve the program and may serve in part as an evaluative tool(s).

For the development and implementation of the program to be the most effective, professional safety and health personnel should be used. Certified Safety Professionals, Board Certified Industrial Hygienists or Registered Professional Safety Engineers are good examples of professional stature for safety and health managers who will administer the employer's program.

2. *Training.* The training programs for employees subject to the requirements of paragraph (e) of this standard should address: the safety and health hazards employees should expect to find on hazardous waste clean-up sites; what control measures or techniques are effective for those hazards; what monitoring procedures are effective in characterizing exposure levels; what makes an effective employer's safety and health program; what a site safety and health plan should include; hands on training with personal protective equipment and clothing they may be expected to use; the contents of the OSHA standard relevant to the employee's duties and function; and, employee's responsibilities under OSHA and other regulations. Supervisors will need training in their responsibilities under the safety and health program and its subject areas such as the spill containment program, the personal protective equipment program, the medical surveillance program, the emergency response plan and other areas.

The training programs for employees subject to the requirements of paragraph (p) of this standard should address: the employers safety and health program elements impacting employees; the hazard communication program; the medical surveillance program; the hazards and the controls for such hazards that employees need to know for their job duties and functions. All require annual refresher training.

The training programs for employees covered by the requirements of paragraph (q) of this standard should address those competencies required for the various levels of response such as: the hazards associated with hazardous substances; hazard identification and awareness; notification of appropriate persons; the need for and use of personal protective equipment including respirators; the decontamination procedures to be used; preplanning activities for hazardous substance incidents including the emergency reponse plan; company standard operating procedures for hazardous substance emergency responses; the use of the incident command system and other subjects. Hands-on training should be stressed whenever possible. Critiques done after an incident which include an evaluation of what worked and what did not and how could the incident be better handled the next time may be counted as training time.

For hazardous materials specialists (usually members of hazardous materials teams), the training should address the care, use and/or testing of chemical protective clothing including totally encapsulating suits, the medical surveillance program, the standard operating procedures for the hazardous materials team including the use of plugging and patching equipment and other subject areas.

Officers and leaders who may be expected to be in charge at an incident should be fully knowledgeable of their company's incident command system. They should know where and how to obtain additional assistance and be familiar with the local district's emergency response plan and the state emergency response plan.

Specialist employees such as technical experts, medical experts or environmental experts that work with hazardous materials in their regular jobs, who may be sent to the incident scene by the shipper, manufacturer or governmental agency to advise and assist the person in charge of the incident should have training on an annual basis. Their training should include the care and use of personal protective equipment including respirators; knowledge of the incident command system and how they are to relate to it; and those areas needed to keep them current in their respective field as it relates to safety and health involving specific hazardous substances.

Those skilled support personnel, such as employees who work for public works departments or equipment operators who operate bulldozers, sand trucks, backhoes, etc., who may be called to the incident scene to provide emergency support assistance, should have at least a safety and health briefing before entering the area of potential or actual exposure. These skilled support personnel, who have not been a part of the emergency response plan and do not meet

the training requirements, should be made aware of the hazards they face and should be provided all necessary protective clothing and equipment required for their tasks.

There are two National Fire Protection Association standards, NFPA 472—"Standard for Professional Competence of Responders to Hazardous Material Incidents" and NFPA 471—"Recommended Practice for Responding to Hazardous Material Incidents", which are excellent resource documents to aid fire departments and other emergency response organizations in developing their training program materials. NFPA 472 provides guidance on the skills and knowledge needed for first responder awareness level, first responder operations level, hazmat technicians, and hazmat specialist. It also offers guidance for the officer corp who will be in charge of hazardous substance incidents.

3. *Decontamination.* Decontamination procedures should be tailored to the specific hazards of the site, and may vary in complexity and number of steps, depending on the level of hazard and the employee's exposure to the hazard. Decontamination procedures and PPE decontamination methods will vary depending upon the specific substance, since one procedure or method may not work for all substances. Evaluation of decontamination methods and procedures should be performed, as necessary, to assure that employees are not exposed to hazards by re-using PPE. References in appendix D may be used for guidance in establishing an effective decontamination program. In addition, the U.S. Coast Guard's Manual, "Policy Guidance for Response to Hazardous Chemical Releases," U.S. Department of Transportation, Washington, DC (COMDTINST M16465.30) is a good reference for establishing an effective decontamination program.

4. *Emergency response plans.* States, along with designated districts within the states, will be developing or have developed local emergency response plans. These state and district plans should be utilized in the emergency response plans called for in the standard. Each employer should assure that its emergency response plan is compatible with the local plan. The major reference being used to aid in developing the state and local district plans is the *Hazardous Materials Emergency Planning Guide,* NRT–1. The current Emergency Response Guidebook from the U.S. Department of Transportation, CMA's CHEMTREC and the Fire Service Emergency Management Handbook may also be used as resources.

Employers involved with treatment, storage, and disposal facilities for hazardous waste, which have the required contingency plan called for by their permit, would not need to duplicate the same planning elements. Those items of the emergency response plan that are properly addressed in the contingency plan may be substituted into the emergency response plan required in 1926.65 or otherwise kept together for employer and employee use.

5. *Personal protective equipment programs.* The purpose of personal protective clothing and equipment (PPE) is to shield or isolate individuals from the chemical, physical, and biologic hazards that may be encountered at a hazardous substance site.

As discussed in appendix B, no single combination of protective equipment and clothing is capable of protecting against all hazards. Thus PPE should be used in conjunction with other protective methods and its effectiveness evaluated periodically.

The use of PPE can itself create significant worker hazards, such as heat stress, physical and psychological stress, and impaired vision, mobility, and communication. For any given situation, equipment and clothing should be selected that provide an adequate level of protection. However, over-protection, as well as under-protection, can be hazardous and should be avoided where possible.

Two basic objectives of any PPE program should be to protect the wearer from safety and health hazards, and to prevent injury to the wearer from incorrect use and/or malfunction of the PPE. To accomplish these goals, a comprehensive PPE program should include hazard identification, medical monitoring, environmental surveillance, selection, use, maintenance, and decontamination of PPE and its associated training.

The written PPE program should include policy statements, procedures, and guidelines. Copies should be made available to all employees, and a reference copy should be made available at the worksite. Technical data on equipment, maintenance manuals, relevant regulations, and other essential information should also be collected and maintained.

6. *Incident command system (ICS).* Paragraph 1926.65(q)(3)(ii) requires the implementation of an ICS. The ICS is an organized approach to effectively control and *manage* operations at an emergency incident. The individual in charge of the ICS is the senior official responding to the incident. The ICS is not much different than the "command post" approach used for many years by the fire service. During large complex fires involving several companies and many pieces of apparatus, a command post would be established. This enabled *one* individual to be in charge of managing the incident, rather than having several officers from different companies making separate, and sometimes conflicting, decisions. The individual in charge of the command post would delegate responsibility for performing various tasks to subordinate officers. Additionally, all communications were routed through the command post to reduce the number of radio transmissions and eliminate confusion. However, strategy, tactics, and all decisions were made by one individual.

The ICS is a very similar system, except it is implemented for emergency response to all incidents, both large and small, that involve hazardous substances.

For a small incident, the individual in charge of the ICS may perform many tasks of the ICS. There may not be any, or little, delegation of tasks to subordinates. For example, in response to a small incident, the individual in charge of the ICS, in addition to normal command activities, may become the safety officer and may designate only one employee (with proper equipment) as a back-up to provide assistance if needed. OSHA does recommend, however, that at least two employees be designated as back-up personnel since the assistance needed may include rescue.

To illustrate the operation of the ICS, the following scenario might develop during a small incident, such as an overturned tank truck with a small leak of flammable liquid.

The first responding senior officer would implement and take command of the ICS. That person would size-up the incident and determine if additional personnel and apparatus were necessary; would determine what actions to take to control the leak; and, determine the proper level of personal protective equipment. If additional assistance is not needed, the individual in charge of the ICS would implement actions to stop and control the leak using the fewest number of personnel that can effectively accomplish the tasks. The individual in charge of the ICS then would designate himself as the safety officer and two other employees as a back-up in case rescue may become necessary. In this scenario, decontamination procedures would not be necessary.

A large complex incident may require many employees and difficult, time-consuming efforts to control. In these situations, the individual in charge of the ICS will want to delegate different tasks to subordinates in order to maintain a span of control that will keep the number of subordinates, that are reporting, to a manageable level.

Delegation of task at large incidents may be by location, where the incident scene is divided into sectors, and subordinate officers coordinate activities within the sector that they have been assigned.

Delegation of tasks can also be by function. Some of the functions that the individual in charge of the ICS may want to delegate at a large incident are: medical services; evacuation; water supply; resources (equipment, apparatus); media relations; safety; and, site control (integrate activities with police for crowd and traffic control). Also for a large incident, the individual in charge of the ICS will designate several employees as back-up personnel; and a number of safety officers to monitor conditions and recommend safety precautions.

Therefore, no matter what size or complexity an incident may be, by implementing an ICS there will be *one individual in charge* who makes the decisions and gives directions; and, all actions, and communications are coordinated through one central point of command. Such a system should reduce confusion, improve safety, organize and coordinate actions, and should facilitate effective management of the incident.

7. *Site Safety and Control Plans.* The safety and security of response personnel and others in the area of an emergeny response incident site should be of primary concern to the incident commander. The use of a site safety and control plan could greatly assist those in charge of assuring the safety and health of employees on the site.

A comprehensive site safety and control plan should include the following: summary

analysis of hazards on the site and a risk analysis of those hazards; site map or sketch; site work zones (clean zone, transition or decontamination zone, work or hot zone); use of the buddy system; site communications; command post or command center; standard operating procedures and safe work practices; medical assistance and triage area; hazard monitoring plan (air contaminate monitoring, etc.); decontamination procedures and area; and other relevant areas. This plan should be a part of the employer's emergency response plan or an extension of it to the specific site.

8. *Medical surveillance programs.* Workers handling hazardous substances may be exposed to toxic chemicals, safety hazards, biologic hazards, and radiation. Therefore, a medical surveillance program is essential to assess and monitor workers' health and fitness for employment in hazardous waste operations and during the course of work; to provide emergency and other treatment as needed; and to keep accurate records for future reference.

The *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities* developed by the National Institute for Occupational Safety and Health (NIOSH), the Occupational Safety and Health Administration (OSHA), the U.S. Coast Guard (USCG), and the Environmental Protection Agency (EPA); October 1985 provides an excellent example of the types of medical testing that should be done as part of a medical surveillance program.

9. *New Technology and Spill Containment Programs.* Where hazardous substances may be released by spilling from a container that will expose employees to the hazards of the materials, the employer will need to implement a program to contain and control the spilled material. Diking and ditching, as well as use of absorbents like diatomaceous earth, are traditional techniques which have proven to be effective over the years. However, in recent years new products have come into the marketplace, the use of which complement and increase the effectiveness of these traditional methods. These new products also provide emergency responders and others with additional tools or agents to use to reduce the hazards of spilled materials.

These agents can be rapidly applied over a large area and can be uniformly applied or otherwise can be used to build a small dam, thus improving the workers' ability to control spilled material. These application techniques enhance the intimate contact between the agent and the spilled material allowing for the quickest effect by the agent or quickest control of the spilled material. Agents are available to solidify liquid spilled materials, to suppress vapor generation from spilled materials, and to do both. Some special agents, which when applied as recommended by the manufacturer, will react in a controlled manner with the spilled material to neutralize acids or caustics, or greatly reduce the level of hazard of the spilled material.

There are several modern methods and devices for use by emergency response personnel or others involved with spill control efforts to safely apply spill control agents to control spilled material hazards. These include portable pressurized applicators similar to hand-held portable fire extinguishing devices, and nozzle and hose systems similar to portable fire fighting foam systems which allow the operator to apply the agent without having to come into contact with the spilled material. The operator is able to apply the agent to the spilled material from a remote position.

The solidification of liquids provides for rapid containment and isolation of hazardous substance spills. By directing the agent at run-off points or at the edges of the spill, the reactant solid will automatically create a barrier to slow or stop the spread of the material. Clean-up of hazardous substances is greatly improved when solidifying agents, acid or caustic neutralizers, or activated carbon adsorbents are used. Properly applied, these agents can totally solidify liquid hazardous substances or neutralize or absorb them, which results in materials which are less hazardous and easier to handle, transport, and dispose of. The concept of spill treatment, to create less hazardous substances, will improve the safety and level of protection of employees working at spill clean-up operations or emergency response operations to spills of hazardous substances.

The use of vapor suppression agents for volatile hazardous substances, such as flammable liquids and those substances which present an inhalation hazard, is important for protecting workers. The rapid and uniform distribution of the agent over the surface of the spilled material can provide quick vapor knockdown. There are temporary and long-term foam-type agents which are effective on vapors and dusts, and activated carbon adsorption agents which are effective for vapor control and soaking-up of the liquid. The proper use of hose lines or hand-held portable pressurized applicators provides good mobility and permits the worker to deliver the agent from a safe distance without having to step into the untreated spilled material. Some of these systems can be recharged in the field to provide coverage of larger spill areas than the design limits of a single charged applicator unit. Some of the more effective agents can solidify the liquid flammable hazardous substances and at the same time elevate the flashpoint above 140° F so the resulting substance may be handled as a nonhazardous waste material if it meets the U.S. Environmental Protection Agency's 40 CFR part 261 requirements (See particularly § 261.21).

All workers performing hazardous substance spill control work are expected to wear the proper protective clothing and equipment for the materials present and to follow the employer's established standard operating procedures for spill control. All involved workers need to be trained in the established operating procedures; in the use and care of spill control equipment; and in the associated hazards and control of such hazards of spill containment work.

These new tools and agents are the things that employers will want to evaluate as part of their new technology program. The treatment of spills of hazardous substances or wastes at an emergency incident as part of the immediate spill containment and control efforts is sometimes acceptable to EPA and a permit exception is described in 40 CFR 264.1(g)(8) and 265.1(c)(11).

Appendix D to § 1926.65—References

The following references may be consulted for further information on the subject of this standard:

1. OSHA Instruction DFO CPL 2.70—January 29, 1986, *Special Emphasis Program: Hazardous Waste Sites.*

2. OSHA Instruction DFO CPL 2–2.37A—January 29, 1986, *Technical Assistance and Guidelines for Superfund and Other Hazardous Waste Site Activities.*

3. OSHA Instruction DTS CPL 2.74—January 29, 1986, *Hazardous Waste Activity Form, OSHA 175.*

4. *Hazardous Waste Inspections Reference Manual,* U.S. Department of Labor, Occupational Safety and Health Administration, 1986.

5. Memorandum of Understanding Among the National Institute for Occupational Safety and Health, the Occupational Safety and Health Administration, the United States Coast Guard, and the United States Environmental Protection Agency, *Guidance for Worker Protection During Hazardous Waste Site Investigations and Clean-up and Hazardous Substance Emergencies.* December 18, 1980.

6. *National Priorities List,* 1st Edition, October 1984; U.S. Environmental Protection Agency, Revised periodically.

7. *The Decontamination of Response Personnel,* Field Standard Operating Procedures (F.S.O.P.) 7; U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Hazardous Response Support Division, December 1984.

8. *Preparation of a Site Safety Plan,* Field Standard Operating Procedures (F.S.O.P.) 9; U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Hazardous Response Support Division, April 1985.

9. *Standard Operating Safety Guidelines;* U.S. Environmental Protection Agency, Office of Emergency and Remedial Response, Hazardous Response Support Division, Environmental Response Team; November 1984.

10. *Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities,* National Institute for Occupational Safety and Health (NIOSH), Occupational Safety and Health Administration (OSHA), U.S. Coast Guard (USCG), and Environmental Protection Agency (EPA); October 1985.

11. *Protecting Health and Safety at Hazardous Waste Sites: An Overview,* U.S. Environmental Protection Agency, EPA/625/9–85/006; September 1985.

12. *Hazardous Waste Sites and Hazardous Substance Emergencies,* NIOSH Worker Bulletin, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety and Health; December 1982.

13. *Personal Protective Equipment for Hazardous Materials Incidents: A Selection Guide;* U.S. Department of Health and Human Services, Public Health Service,

Centers for Disease Control, National Institute for Occupational Safety and Health; October 1984.

14. *Fire Service Emergency Management Handbook*, International Association of Fire Chiefs Foundation, 101 East Holly Avenue, Unit 10B, Sterling, VA 22170, January 1985.

15. *Emergency Response Guidebook*, U.S Department of Transportation, Washington, DC, 1987.

16. *Report to the Congress on Hazardous Materials Training, Planning and Preparedness*, Federal Emergency Management Agency, Washington, DC, July 1986.

17. *Workbook for Fire Command*, Alan V. Brunacini and J. David Beageron, National Fire Protection Association, Batterymarch Park, Quincy, MA 02269, 1985.

18. *Fire Command*, Alan V. Brunacini, National Fire Protection Association, Batterymarch Park,, Quincy, MA 02269, 1985.

19. *Incident Command System*, Fire Protection Publications, Oklahoma State University, Stillwater, OK 74078, 1983.

20. *Site Emergency Response Planning*, Chemical Manufacturers Association, Washington, DC 20037, 1986.

21. *Hazardous Materials Emergency Planning Guide*, NRT–1, Environmental Protection Agency, Washington, DC, March 1987.

22. *Community Teamwork: Working Together to Promote Hazardous Materials Transportation Safety*. U.S. Department of Transportation, Washington, DC, May 1983.

23. *Disaster Planning Guide for Business and Industry*, Federal Emergency Management Agency, Publication No. FEMA 141, August 1987.

(The Office of Management and Budget has approved the information collection requirements in this section under control number 1218–0139)

13. In subpart D, a new § 1926.66 is added to read as follows:

§ 1926.66 Criteria for design and construction of spray booths.

(a) *Definitions applicable to this section*—(1) *Aerated solid powders.* Aerated powders shall mean any powdered material used as a coating material which shall be fluidized within a container by passing air uniformly from below. It is common practice to fluidize such materials to form a fluidized powder bed and then dip the part to be coated into the bed in a manner similar to that used in liquid dipping. Such beds are also used as sources for powder spray operations.

(2) *Spraying area.* Any area in which dangerous quantities of flammable vapors or mists, or combustible residues, dusts, or deposits are present due to the operation of spraying processes.

(3) *Spray booth.* A power-ventilated structure provided to enclose or accommodate a spraying operation to confine and limit the escape of spray, vapor, and residue, and to safely conduct or direct them to an exhaust system.

(4) *Waterwash spray booth.* A spray booth equipped with a water washing system designed to minimize dusts or residues entering exhaust ducts and to permit the recovery of overspray finishing material.

(5) *Dry spray booth.* A spray booth not equipped with a water washing system as described in paragraph (a)(4) of this section. A dry spray booth may be equipped with

(i) Distribution or baffle plates to promote an even flow of air through the booth or cause the deposit of overspray before it enters the exhaust duct; or

(ii) Overspray dry filters to minimize dusts; or

(iii) overspray dry filters to minimize dusts or residues entering exhaust ducts; or

(iv) Overspray dry filter rolls designed to minimize dusts or residues entering exhaust ducts; or

(v) Where dry powders are being sprayed, with powder collection systems so arranged in the exhaust to capture oversprayed material.

(6) *Fluidized bed.* A container holding powder coating material which is aerated from below so as to form an air-supported expanded cloud of such material through which the preheated object to be coated is immersed and transported.

(7) *Electrostatic fluidized bed.* A container holding powder coating material which is aerated from below so as to form an air-supported expanded cloud of such material which is electrically charged with a charge opposite to the charge of the object to be coated; such object is transported, through the container immediately above the charged and aerated materials in order to be coated.

(8) *Approved.* Shall mean approved and listed by a nationally recognized testing laboratory.

(9) *Listed.* See "approved" in paragraph (a)(8) of this section.

(b) *Spray booths*—(1) *Construction.* Spray booths shall be substantially constructed of steel, securely and rigidly supported, or of concrete or masonry except that aluminum or other substantial noncombustible material may be used for intermittent or low volume spraying. Spray booths shall be designed to sweep air currents toward the exhaust outlet.

(2) *Interiors.* The interior surfaces of spray booths shall be smooth and continuous without edges and otherwise designed to prevent pocketing of residues and facilitate cleaning and washing without injury.

(3) *Floors.* The floor surface of a spray booth and operator's working area, if combustible, shall be covered with noncombustible material of such character as to facilitate the safe cleaning and removal of residues.

(4) *Distribution or baffle plates.* Distribution or baffle plates, if installed to promote an even flow of air through the booth or cause the deposit of overspray before it enters the exhaust duct, shall be of noncombustible material and readily removable or accessible on both sides for cleaning. Such plates shall not be located in exhaust ducts.

(5) *Dry type overspray collectors—(exhaust air filters).* In conventional dry type spray booths, overspray dry filters or filter rolls, if installed, shall conform to the following:

(i) The spraying operations except electrostatic spraying operations shall be so designed, installed and maintained that the average air velocity over the open face of the booth (or booth cross section during spraying operations) shall be not less than 100 linear feet per minute. Electrostatic spraying operations may be conducted with an air velocity over the open face of the booth of not less than 60 linear feet per minute, or more, depending on the volume of the finishing material being applied and its flammability and explosion characteristics. Visible gauges or audible alarm or pressure activated devices shall be installed to indicate or insure that the required air velocity is maintained. Filter rolls shall be inspected to insure proper replacement of filter media.

(ii) All discarded filter pads and filter rolls shall be immediately removed to a safe, well-detached location or placed in a water-filled metal container and disposed of at the close of the day's operation unless maintained completely in water.

(iii) The location of filters in a spray booth shall be so as to not reduce the effective booth enclosure of the articles being sprayed.

(iv) Space within the spray booth on the downstream and upstream sides of filters shall be protected with approved automatic sprinklers.

(v) Filters or filter rolls shall not be used when applying a spray material known to be highly susceptible to spontaneous heating and ignition.

(vi) Clean filters or filter rolls shall be noncombustible or of a type having a combustibility not in excess of class 2 filters as listed by Underwriters' Laboratories, Inc. Filters and filter rolls shall not be alternately used for different types of coating materials,

where the combination of materials may be conducive to spontaneous ignition.

(6) *Frontal area.* Each spray booth having a frontal area larger than 9 square feet shall have a metal deflector or curtain not less than 2 ½ inches (5.35 cm) deep installed at the upper outer edge of the booth over the opening.

(7) *Conveyors.* Where conveyors are arranged to carry work into or out of spray booths, the openings therefor shall be as small as practical.

(8) *Separation of operations.* Each spray booth shall be separated from other operations by not less than 3 feet (0.912 m), or by a greater distance, or by such partition or wall as to reduce the danger from juxtaposition of hazardous operations. See also paragraph (c)(1) of this section.

(9) *Cleaning.* Spray booths shall be so installed that all portions are readily accessible for cleaning. A clear space of not less than 3 feet (0.912 m) on all sides shall be kept free from storage or combustible construction.

(10) *Illumination.* When spraying areas are illuminated through glass panels or other transparent materials, only fixed lighting units shall be used as a source of illumination. Panels shall effectively isolate the spraying area from the area in which the lighting unit is located, and shall be of a noncombustible material of such a nature or so protected that breakage will be unlikely. Panels shall be so arranged that normal accumulations of residue on the exposed surface of the panel will not be raised to a dangerous temperature by radiation or conduction from the source of illumination.

(c) *Electrical and other sources of ignition*—(1) *Conformance.* All electrical equipment, open flames and other sources of ignition shall conform to the requirements of this paragraph, except as follows:

(i) Electrostatic apparatus shall conform to the requirements of paragraphs (e) and (f) of this section;

(ii) Drying, curing, and fusion apparatus shall conform to the requirements of paragraph (g) of this section;

(iii) [Reserved]

(iv) Powder coating equipment shall conform to the requirements of paragraph (c)(1) of this section.

(2) *Minimum separation.* There shall be no open flame or spark producing equipment in any spraying area nor within 20 feet (6.08 m) thereof, unless separated by a partition.

(3) *Hot surfaces.* Space-heating appliances, steampipes, or hot surfaces shall not be located in a spraying area where deposits of combustible residues may readily accumulate

(4) *Wiring conformance.* Electrical wiring and equipment shall conform to the provisions of this paragraph and shall otherwise be in accordance with subpart S of this part.

(5) *Combustible residues, areas.* Unless specifically approved for locations containing both deposits of readily ignitable residue and explosive vapors, there shall be no electrical equipment in any spraying area, whereon deposits of combustible residues may readily accumulate, except wiring in rigid conduit or in boxes or fittings containing no taps, splices, or terminal connections.

(6) *Wiring type approved.* Electrical wiring and equipment not subject to deposits of combustible residues but located in a spraying area as herein defined shall be of explosion-proof type approved for Class I, group D locations and shall otherwise conform to the provisions of subpart S of this part, for Class I, Division 1, Hazardous Locations. Electrical wiring, motors, and other equipment outside of but within 20 feet (6.08 m) of any spraying area, and not separated therefrom by partitions, shall not produce sparks under normal operating conditions and shall otherwise conform to the provisions of subpart S of this part for Class I, Division 2 Hazardous Locations.

(7) *Lamps.* Electric lamps outside of, but within 20 feet (6.08 m) of any spraying area, and not separated therefrom by a partition, shall be totally enclosed to prevent the falling of hot particles and shall be protected from mechanical injury by suitable guards or by location.

(8) *Portable lamps.* Portable electric lamps shall not be used in any spraying area during spraying operations. Portable electric lamps, if used during cleaning or repairing operations, shall be of the type approved for hazardous Class I locations.

(9) *Grounding.* (i) All metal parts of spray booths, exhaust ducts, and piping systems conveying flammable or combustible liquids or aerated solids shall be properly electrically grounded in an effective and permanent manner.

(d) *Ventilation*—(1) *Conformance.* Ventilating and exhaust systems shall be in accordance with the Standard for Blower and Exhaust Systems for Vapor Removal, NFPA No. 91–1961, where applicable and shall also conform to the provisions of this section.

(2) *General.* All spraying areas shall be provided with mechanical ventilation adequate to remove flammable vapors, mists, or powders to a safe location and to confine and control combustible residues so that life is not endangered. Mechanical ventilation shall be kept in operation at all times while spraying operations are being conducted and for a sufficient time thereafter to allow vapors from drying coated articles and drying finishing material residue to be exhausted.

(3) *Independent exhaust.* Each spray booth shall have an independent exhaust duct system discharging to the exterior of the building, except that multiple cabinet spray booths in which identical spray finishing material is used with a combined frontal area of not more than 18 square feet may have a common exhaust. If more than one fan serves one booth, all fans shall be so interconnected that one fan cannot operate without all fans being operated.

(4) *Fan-rotating element.* The fan-rotating element shall be nonferrous or nonsparking or the casing shall consist of or be lined with such material. There shall be ample clearance between the fan-rotating element and the fan casing to avoid a fire by friction, necessary allowance being made for ordinary expansion and loading to prevent contact between moving parts and the duct or fan housing. Fan blades shall be mounted on a shaft sufficiently heavy to maintain perfect alignment even when the blades of the fan are heavily loaded, the shaft preferably to have bearings outside the duct and booth. All bearings shall be of the self-lubricating type, or lubricated from the outside duct.

(5) *Electric motors.* Electric motors driving exhaust fans shall not be placed inside booths or ducts. See also paragraph (c) of this section.

(6) *Belts.* Belts shall not enter the duct or booth unless the belt and pulley within the duct or booth are thoroughly enclosed.

(7) *Exhaust ducts.* Exhaust ducts shall be constructed of steel and shall be substantially supported. Exhaust ducts without dampers are preferred; however, if dampers are installed, they shall be maintained so that they will be in a full open position at all times the ventilating system is in operation.

(i) Exhaust ducts shall be protected against mechanical damage and have a clearance from unprotected combustible construction or other combustible material of not less than 18 inches (45.72 cm).

(ii) If combustible construction is provided with the following protection applied to all surfaces within 18 inches (45.72 cm), clearances may be reduced to the distances indicated:

(*a*) 28-gage sheet metal on 1/4-inch asbestos mill board.	12 inches (30.48 cm).

(b) 28-gage sheet metal on 1/8-inch asbestos mill board spaced out 1 inch (2.54 cm) on noncombustible spacers.	9 inches (22.86 cm).
(c) 22-gage sheet metal on 1-inch rockwool batts reinforced with wire mesh or the equivalent.	3 inches (7.62 cm).

(d) Where ducts are protected with an approved automatic sprinkler system, properly maintained, the clearance required in paragraph (d)(7)(i) of this section may be reduced to 6 inches (15.24 cm).

(8) *Discharge clearance.* Unless the spray booth exhaust duct terminal is from a water-wash spray booth, the terminal discharge point shall be not less than 6 feet from any combustible exterior wall or roof nor discharge in the direction of any combustible construction or unprotected opening in any noncombustible exterior wall within 25 feet (7.6 m).

(9) *Air exhaust.* Air exhaust from spray operations shall not be directed so that it will contaminate makeup air being introduced into the spraying area or other ventilating intakes, nor directed so as to create a nuisance. Air exhausted from spray operations shall not be recirculated.

(10) *Access doors.* When necessary to facilitate cleaning, exhaust ducts shall be provided with an ample number of access doors.

(11) *Room intakes.* Air intake openings to rooms containing spray finishing operations shall be adequate for the efficient operation of exhaust fans and shall be so located as to minimize the creation of dead air pockets.

(12) *Drying spaces.* Freshly sprayed articles shall be dried only in spaces provided with adequate ventilation to prevent the formation of explosive vapors. In the event adequate and reliable ventilation is not provided such drying spaces shall be considered a spraying area.

(e) *Fixed electrostatic apparatus*—(1) *Conformance.* Where installation and use of electrostatic spraying equipment is used, such installation and use shall conform to all other paragraphs of this section, and shall also conform to the requirements of this paragraph.

(2) *Type approval.* Electrostatic apparatus and devices used in connection with coating operations shall be of approved types.

(3) *Location.* Transformers, power packs, control apparatus, and all other electrical portions of the equipment, with the exception of high-voltage grids, electrodes, and electrostatic atomizing heads and their connections, shall be located outside of the spraying area, or shall otherwise conform to the requirements of paragraph (c) of this section.

(4) *Support.* Electrodes and electrostatic atomizing heads shall be adequately supported in permanent locations and shall be effectively insulated from the ground. Electrodes and electrostatic atomizing heads which are permanently attached to their bases, supports, or reciprocators, shall be deemed to comply with this section. Insulators shall be nonporous and noncombustible.

(5) *Insulators, grounding.* High-voltage leads to electrodes shall be properly insulated and protected from mechanical injury or exposure to destructive chemicals. Electrostatic atomizing heads shall be effectively and permanently supported on suitable insulators and shall be effectively guarded against accidental contact or grounding. An automatic means shall be provided for grounding the electrode system when it is electrically deenergized for any reason. All insulators shall be kept clean and dry.

(6) *Safe distance.* A safe distance shall be maintained between goods being painted and electrodes or electrostatic atomizing heads or conductors of at least twice the sparking distance. A suitable sign indicating this safe distance shall be conspicuously posted near the assembly.

(7) *Conveyors required.* Goods being painted using this process are to be supported on conveyors. The conveyors shall be so arranged as to maintain safe distances between the goods and the electrodes or electrostatic atomizing heads at all times. Any irregularly shaped or other goods subject to possible swinging or movement shall be rigidly supported to prevent such swinging or movement which would reduce the clearance to less than that specified in paragraph (e)(6) of this section.

(8) *Prohibition.* This process is not acceptable where goods being coated are manipulated by hand. When finishing materials are applied by electrostatic equipment which is manipulated by hand, see paragraph (f) of this section for applicable requirements.

(9) *Fail-safe controls.* Electrostatic apparatus shall be equipped with automatic controls which will operate without time delay to disconnect the power supply to the high voltage transformer and to signal the operator under any of the following conditions:

(i) Stoppage of ventilating fans or failure of ventilating equipment from any cause.

(ii) Stoppage of the conveyor carrying goods through the high voltage field.

(iii) Occurrence of a ground or of an imminent ground at any point on the high voltage system.

(iv) Reduction of clearance below that specified in paragraph (e)(6) of this section.

(10) *Guarding.* Adequate booths, fencing, railings, or guards shall be so placed about the equipment that they, either by their location or character or both, assure that a safe isolation of the process is maintained from plant storage or personnel. Such railings, fencing, and guards shall be of conducting material, adequately grounded.

(11) *Ventilation.* Where electrostatic atomization is used the spraying area shall be so ventilated as to insure safe conditions from a fire and health standpoint.

(12) *Fire protection.* All areas used for spraying, including the interior of the booth, shall be protected by automatic sprinklers where this protection is available. Where this protection is not available, other approved automatic extinguishing equipment shall be provided.

(f) *Electrostatic hand spraying equipment*—(1) *Application.* This paragraph shall apply to any equipment using electrostatically charged elements for the atomization and/or, precipitation of materials for coatings on articles, or for other similar purposes in which the atomizing device is hand held and manipulated during the spraying operation.

(2) *Conformance.* Electrostatic hand spraying equipment shall conform with the other provisions of this section.

(3) *Equipment approval and specifications.* Electrostatic hand spray apparatus and devices used in connection with coating operations shall be of approved types. The high voltage circuits shall be designed so as to not produce a spark of sufficient intensity to ignite any vapor-air mixtures nor result in appreciable shock hazard upon coming in contact with a grounded object under all normal operating conditions. The electrostatically charged exposed elements of the handgun shall be capable of being energized only by a switch which also controls the coating material supply.

(4) *Electrical support equipment.* Transformers, powerpacks, control apparatus, and all other electrical portions of the equipment, with the exception of the handgun itself and its connections to the power supply shall be located outside of the spraying area or shall otherwise conform to the

requirements of paragraph (c) of this section.

(5) *Spray gun ground.* The handle of the spraying gun shall be electrically connected to ground by a metallic connection and to be so constructed that the operator in normal operating position is in intimate electrical contact with the grounded handle.

(6) *Grounding-general.* All electrically conductive objects in the spraying area shall be adequately grounded. This requirement shall apply to paint containers, wash cans, and any other objects or devices in the area. The equipment shall carry a prominent permanently installed warning regarding the necessity for this grounding feature.

(7) *Maintenance of grounds.* Objects being painted or coated shall be maintained in metallic contact with the conveyor or other grounded support. Hooks shall be regularly cleaned to insure this contact and areas of contact shall be sharp points or knife edges where possible. Points of support of the object shall be concealed from random spray where feasible and where the objects being sprayed are supported from a conveyor, the point of attachment to the conveyor shall be so located as to not collect spray material during normal operation.

(8) *Interlocks.* The electrical equipment shall be so interlocked with the ventilation of the spraying area that the equipment cannot be operated unless the ventilation fans are in operation.

(9) *Ventilation.* The spraying operation shall take place within a spray area which is adequately ventilated to remove solvent vapors released from the operation.

(g) *Drying, curing, or fusion apparatus*—(1) *Conformance.* Drying, curing, or fusion apparatus in connection with spray application of flammable and combustible finishes shall conform to the Standard for Ovens and Furnaces, NFPA 86A–1969, where applicable and shall also conform with the following requirements of this paragraph.

(2) *Alternate use prohibited.* Spray booths, rooms, or other enclosures used for spraying operations shall not alternately be used for the purpose of drying by any arrangement which will cause a material increase in the surface temperature of the spray booth, room, or enclosure.

(3) *Adjacent system interlocked.* Except as specifically provided in paragraph (g)(4) of this section, drying, curing, or fusion units utilizing a heating system having open flames or which may produce sparks shall not be installed in a spraying area, but may be installed adjacent thereto when equipped with an interlocked ventilating system arranged to:

(i) Thoroughly ventilate the drying space before the heating system can be started;

(ii) Maintain a safe atmosphere at any source of ignition;

(iii) Automatically shut down the heating system in the event of failure of the ventilating system.

(4) *Alternate use permitted.* Automobile refinishing spray booths or enclosures, otherwise installed and maintained in full conformity with this section, may alternately be used for drying with portable electrical infrared drying apparatus when conforming with the following:

(i) Interior (especially floors) of spray enclosures shall be kept free of overspray deposits.

(ii) During spray operations, the drying apparatus and electrical connections and wiring thereto shall not be located within spray enclosure nor in any other location where spray residues may be deposited thereon.

(iii) The spraying apparatus, the drying apparatus, and the ventilating system of the spray enclosure shall be equipped with suitable interlocks so arranged that:

(*a*) The spraying apparatus cannot be operated while the drying apparatus is inside the spray enclosure.

(*b*) The spray enclosure will be purged of spray vapors for a period of not less than 3 minutes before the drying apparatus can be energized.

(*c*) The ventilating system will maintain a safe atmosphere within the enclosure during the drying process and the drying apparatus will automatically shut off in the event of failure of the ventilating system.

(iv) All electrical wiring and equipment of the drying apparatus shall conform with the applicable sections of Subpart S of this part. Only equipment of a type approved for Class I, Division 2 hazardous locations shall be located within 18 inches (45.72 cm) of floor level. All metallic parts of the drying apparatus shall be properly electrically bonded and grounded.

(v) The drying apparatus shall contain a prominently located, permanently attached warning sign indicating that ventilation should be maintained during the drying period and that spraying should not be conducted in the vicinity that spray will deposit on apparatus.

14. In Subpart E, new §§1926.95 through 1926.97 are added to read as follows

Subpart E—Personal Protective and Life Saving Equipment

§ 1926.95 Criteria for personal protective equipment.

(a) *Application.* Protective equipment, including personal protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.

(b) *Employee-owned equipment.* Where employees provide their own protective equipment, the employer shall be responsible to assure its adequacy, including proper maintenance, and sanitation of such equipment.

(c) *Design.* All personal protective equipment shall be of safe design and construction for the work to be performed.

§ 1926.96 Occupational foot protection.

Safety-toe footwear for employees shall meet the requirements and specifications in American National Standard for Men's Safety-Toe Footwear, Z41.1–1967.

§ 1926.97 Protective clothing for fire brigades.

The following requirements apply to those employees who perform interior structural fire fighting. The requirements do not apply to employees who use fire extinguishers or standpipe systems to control or extinguish fires only in the incipient stage.

(a) *General.* (1) The employer shall provide at no cost to the employee and assure the use of protective clothing which complies with the requirements of this paragraph. The employer shall assure that protective clothing ordered or purchased after July 1, 1981, meets the requirements contained in this paragraph. As the new equipment is provided, the employer shall assure that all fire brigade members wear the equipment when performing interior structural fire fighting. After July 1, 1985, the employer shall assure that all fire brigade members wear protective clothing meeting the requirements of this paragraph when performing interior structural fire fighting.

(2) The employer shall assure that protective clothing protects the head,

body, and extremities, and consists of at least the following components: foot and leg protection; hand protection; body protection; eye, face and head protection.

(b) *Foot and leg protection.* (1) Foot and leg protection shall meet the requirements of paragraphs (b) (2) and (3) of this section, and may be achieved by either of the following methods:

(i) Fully extended boots which provide protection for the legs; or

(ii) Protective shoes or boots worn in combination with protective trousers that meet the requirements of paragraph (c) of this section.

(2) Protective footwear shall meet the requirements of § 1926.96 for Class 75 footwear. In addition, protective footwear shall be water-resistant for at least 5 inches (12.7 cm) above the bottom of the heel and shall be equipped with slip-resistant outer soles.

(3) Protective footwear shall be tested in accordance with paragraph (f) of this section, and shall provide protection against penetration of the midsole by a size 8D common nail when at least 300 pounds (1330 N) of static force is applied to the nail.

(c) *Body protection.* (1) Body protection shall be coordinated with foot and leg protection to ensure full body protection for the wearer. This shall be achieved by one of the following methods:

(i) Wearing of a fire-resistive coat meeting the requirements of paragraph (c)(2) of this section in combination with fully extended boots meeting the requirements of paragraphs (b) (2) and (3) of this section; or

(ii) Wearing of a fire-resistive coat in combination with protective trousers both of which meet the requirements of paragraph (c)(2) of this section.

(2) The performance, construction, and testing of fire-resistive coats and protective trousers shall be at least equivalent to the requirements of the National Fire Protection Association (NFPA) standard NFPA No. 1971-1975, "Protective Clothing for Structural Fire Fighting," with the following permissible variations from those requirements:

(i) Tearing strength of the outer shell shall be a minimum of 8 pounds (35.6 N) in any direction when tested in accordance with paragraph (g) of this section; and

(ii) The outer shell may discolor but shall not separate or melt when placed in a forced air laboratory oven at a temperature of 500° F (260° C) for a period of five minutes. After cooling to ambient temperature and using the test method specified in paragraph (h) of this section, char length shall not exceed 4.0 inches (10.2 cm) and afterflame shall not exceed 2.0 seconds.

(d) *Hand protection.* (1) Hand protection shall consist of protective gloves or glove system which will provide protection against cut, puncture, and heat penetration. Gloves or glove system shall be tested in accordance with the test methods contained in the National Institute for Occupational Safety and Health (NIOSH) 1976 publication, "The Development of Criteria for Fire Fighter's Gloves; Vol. II, Part II: Test Methods," and shall meet the following criteria for cut, puncture, and heat penetration:

(i) Materials used for gloves shall resist surface cut by a blade with an edge having a 60° included angle and a .001 inch (.0025 cm.) radius, under an applied force of 16 lbf (72N), and at a slicing velocity of greater or equal to 60 in/min (2.5 cm./sec);

(ii) Materials used for the palm and palm side of the fingers shall resist puncture by a penetrometer (simulating a 4d lath nail), under an applied force of 13.2 lbf (60N), and at a velocity greater or equal to 20 in/min (.85 cm./sec); and

(iii) The temperature inside the palm and gripping surface of the fingers of gloves shall not exceed 135° F. (57° C.) when gloves or glove system are exposed to 932° F. (500° C.) for five seconds at 4 psi (28 kPa) pressure.

(2) Exterior materials of gloves shall be flame resistant and shall be tested in accordance with paragraph (h) of this section. Maximum allowable afterflame shall be 2.0 seconds, and the maximum char length shall be 4.0 inches (10.2 cm).

(3) When design of the fire-resistive coat does not otherwise provide protection for the wrists, protective gloves shall have wristlets of at least 4.0 inches (10.2 cm) in length to protect the wrist area when the arms are extended upward and outward from the body.

(e) *Head, eye and face protection.* (1) Head protection shall consist of a protective head device with ear flaps and chin strap which meet the performance, construction, and testing requirements of the National Fire Safety and Research Office of the National Fire Prevention and Control Administration, U.S. Department of Commerce (now known as the U.S. Fire Administration), which are contained in "Model Performance Criteria for Structural Firefighters' Helmets" (August 1977).

(2) Protective eye and face devices which comply with § 1926.102 shall be used by fire brigade members when performing operations where the hazards of flying or falling materials which may cause eye and face injuries are present. Protective eye and face devices provided as accessories to protective head devices (face shields) are permitted when such devices meet the requirements of § 1926.102.

(3) Full facepieces, helmets, or hoods of breathing apparatus which meet the requirements of §§ 1926.98 and 1926.103 of this part, shall be acceptable as meeting the eye and face protection requirements of this section.

(f) *Puncture resistance test method for foot protection*—(1) *Apparatus.* The puncture resistance test shall be performed on a testing machine having a movable platform adjusted to travel at ¼-inch/min (0.1 cm/sec). Two blocks of hardwood, metal, or plastic shall be prepared as follows: the blocks shall be of such size and thickness as to insure a suitable rigid test ensemble and allow for at least one-inch of the pointed end of an 8D nail to be exposed for the penetration. One block shall have a hole drilled to hold an 8D common nail firmly at an angle of 98 deg. The second block shall have a maximum ½-inch (1.3 cm) diameter hole drilled through it so that the hole will allow free passage of the nail after it penetrates the insole during the test.

(2) *Procedure.* The test ensemble consisting of the sample unit, the two prepared blocks, a piece of leather outsole 10 to 11 irons thick, and a new 8D nail, shall be placed as follows: the 8D nail in the hole, the sample of outsole stock superimposed above the nail, the area of the sole plate to be tested placed on the outsole, and the second block with hole so placed as to allow for free passage of the nail after it passes through the outsole stock and sole plate in that order. The machine shall be started and the pressure, in pounds required for the nail to completely penetrate the outsole and sole plate, recorded to the nearest five pounds. Two determinations shall be made on each sole plate and the results averaged. A new nail shall be used for each determination.

(3) *Source.* These test requirements are contained in "Military Specification For Fireman's Boots," MIL-B-2885D (1973 and amendment dated 1975) and are reproduced for your convenience.

(g) *Test method for determining the strength of cloth by tearing: Trapezoid Method*—(1) *Test specimen.* The specimen shall be a rectangle of cloth 3 inches by 6 inches (7.6 cm by 15.2 cm). The long dimension shall be parallel to the warp for warp tests and parallel to the filling for filling tests. No two specimens for warp tests shall contain the same warp yarns, nor shall any two specimens for filling tests contain the

same filling yarns. The specimen shall be taken no nearer the selvage than 1/10 the width of the cloth. An isosceles trapezoid having an altitude of 3 inches (7.6 cm) and bases of 1 inch (2.5 cm) and 4 inches (10.2 cm) in length, respectively, shall be marked on each specimen, preferably with the aid of a template. A cut approximately 3/8-inch (1 cm) in length shall then be made in the center of a perpendicular to the 1-inch (2.5 cm) edge.

(2) *Apparatus.* (i) Six-ounce (.17 kg) weight tension clamps shall be used so designed that the six ounces (.17 kg) of weight are distributed evenly across the complete width of the sample.

(ii) The machine shall consist of three main parts: Straining mechanism, clamps for holding specimen, and load and elongation recording mechanisms.

(iii) A machine wherein the specimen is held between two clamps and strained by a uniform movement of the pulling clamp shall be used.

(iv) The machine shall be adjusted so that the pulling clamp shall have a uniform speed of 12 ± 10.5 inches per minute (0.5 ± .02 cm/sec).

(v) The machine shall have two clamps with two jaws on each clamp. The design of the two clamps shall be such that one gripping surface or jaw may be an integral part of the rigid frame of the clamp or be fastened to allow a slight vertical movement, while the other gripping surface or jaw shall be completely moveable. The dimension of the immovable jaw of each clamp parallel to the application of the load shall measure one-inch, and the dimension of the jaw perpendicular to this direction shall measure three inches or more. The face of the movable jaw of each clamp shall measure one-inch by 3 inches (7.62 cm).

Each jaw face shall have a flat smooth, gripping surface. All edges which might cause a cutting action shall be rounded to a radius of not over 1/64-inch (.04 cm). In cases where a cloth tends to slip when being tested, the jaws may be faced with rubber or other material to prevent slippage. The distance between the jaws (gage length) shall be one-inch at the start of the test.

(vi) Calibrated dial; scale or chart shall be used to indicate applied load and elongation. The machine shall be adjusted or set, so that the maximum load required to break the specimen will remain indicated on the calibrated dial or scale after the test specimen has ruptured.

(vii) The machine shall be of such capacity that the maximum load required to break the specimen shall be not greater than 85 percent or less than 15 percent of the rated capacity.

(viii) The error of the machine shall not exceed 2 percent up to and including a 50-pound load (22.6 kg) and 1 percent over a 50-pound load (22.6 kg) at any reading within its loading range.

(ix) All machine attachments for determining maximum loads shall be disengaged during this test.

(3) *Procedure.* (i) The specimen shall be clamped in the machine along the nonparallel sides of the trapezoid so that these sides lie along the lower edge of the upper clamp and the upper edge of the lower clamp with the cut halfway between the clamps. The short trapezoid base shall be held taut and the long trapezoid base shall lie in the folds.

(ii) The machine shall be started and the force necessary to tear the cloth shall be observed by means of an autographic recording device. The speed of the pulling clamp shall be 12 inches ± 0.5 inch per minute (0.5 ± .02 cm/sec).

(iii) If a specimen slips between the jaws, breaks in or at the edges of the jaws, or if for any reason attributable to faulty technique, an individual measurement falls markedly below the average test results for the sample unit, such result shall be discarded and another specimen shall be tested.

(iv) The tearing strength of the specimen shall be the average of the five highest peak loads of resistance registered for 3 inches (7.6 cm) of separation of the tear.

(4) *Report.* (i) Five specimens in each of the warp and filling directions shall be tested from each sample unit.

(ii) The tearing strength of the sample unit shall be the average of the results obtained from the specimens tested in each of the warp and filling directions and shall be reported separately to the nearest 0.1-pound (.05 kg).

(5) *Source.* These test requirements are contained in "Federal Test Method Standard 191, Method 5136" and are reproduced for your convenience.

(h) *Test method for determining flame resistance of cloth; vertical*—(1) *Test specimen.* The specimen shall be a rectangle of cloth 2¾ inches (7.0 cm) by 12 inches (30.5 cm) with the long dimension parallel to either the warp or filling direction of the cloth. No two warp specimens shall contain the same warp yarns, and no two filling specimens shall contain the same filling yarn.

(2) *Number of determinations.* Five specimens from each of the warp and filling directions shall be tested from each sample unit.

(3) *Apparatus*—(i) *Cabinet.* A cabinet and accessories shall be fabricated in accordance with the requirements specified in Figures E–97.1, E–97.2, and E–97.3. Galvanized sheet metal or other suitable metal shall be used. The entire inside back wall of the cabinet shall be painted black to facilitate the viewing of the test specimen and pilot flame.

(ii) *Burner.* The burner shall be equipped with a variable orifice to adjust the flame height, a barrel having a 3/8-inch (1 cm) inside diameter and a pilot light.

(*a*) The burner may be constructed by combining a 3/8-inch (1 cm) inside diameter barrel 3 ± ¼ inches (7.6 ± .6 cm) long from a fixed orifice burner with a base from a variable orifice burner.

(*b*) The pilot light tube shall have a diameter of approximately 1/16-inch (.2 cm) and shall be spaced 1/8-inch (.3 cm) away from the burner edge with a pilot flame 1/8-inch (.3 cm) long.

(*c*) The necessary gas connections and the applicable plumbing shall be as specified in Figure E–97.4 except that a solenoid valve may be used in lieu of the stopcock valve to which the burner is attached. The stopcock valve or solenoid valve, whichever is used, shall be capable of being fully opened or fully closed in 0.1-second.

(*d*) On the side of the barrel of the burner, opposite the pilot light there shall be a metal rod of approximately 1/8-inch (.3 cm) diameter spaced ½-inch (1.3 cm) from the barrel and extending above the burner. The rod shall have two 5/16-inch (.8 cm) prongs marking the distances of ¾-inch (1.9 cm) and 1½ inches (3.8 cm) above the top of the burner.

(*e*) The burner shall be fixed in a position so that the center of the barrel of the burner is directly below the center of the specimen.

(iii) There shall be a control valve system with a delivery rate designed to furnish gas to the burner under a pressure of 2½ ± ¼ (psi) (17.5 ± 1.8 kPa) per square inch at the burner inlet (see (g)(3)(vi)(A)). The manufacturer's recommended delivery rate for the valve system shall be included in the required pressure.

(iv) A synthetic gas mixture shall be of the following composition within the following limits (analyzed at standard conditions): 55 ± 3 percent hydrogen, 24 ± 1 percent methane, 3 ± 1 percent ethane, and 18 ± 1 percent carbon monoxide which will give a specific gravity of 0.365 ± 0.018 (air = 1) and a B.T.U. content of 540 ± 20 per cubic foot (20.1 ± 3.7 kJ/L)(dry basis) at 69.8° F (21° C).

(v) There shall be metal hooks and weights to produce a series of total loads to determine length of char. The metal hooks shall consist of No. 19 gage steel wire or equivalent and shall be made from 3-inch (7.6 cm) lengths of wire and

bent ½-inch (1.3 cm) from one end to a 45 degree hook. One end of the hook shall be fastened around the neck of the weight to be used.

(vi) There shall be a stop watch or other device to measure the burning time to 0.2-second.

(vii) There shall be a scale, graduated in 0.1 inch (.3 cm) to measure the length of char.

(4) *Procedure.* (i) The material undergoing test shall be evaluated for the characteristics of after-flame time and char length on each specimen.

(ii) All specimens to be tested shall be at moisture equilibrium under standard atmospheric conditions in accordance with paragraph (h)(3) of this section. Each specimen to be tested shall be exposed to the test flame within 20 seconds after removal from the standard atmosphere. In case of dispute, all testing will be conducted under Standard Atmospheric Conditions in accordance with paragraph (h)(3) of this section.

(iii) The specimen in its holder shall be suspended vertically in the cabinet in such a manner that the entire length of the specimen is exposed and the lower end is ¾-inch (1.9 cm) above the top of the gas burner. The apparatus shall be set up in a draft free area.

(iv) Prior to inserting the specimen, the pilot flame shall be adjusted to approximately ⅛-inch (.3 cm) in height measured from its lowest point to the tip.

The burner flame shall be adjusted by means of the needle valve in the base of the burner to give a flame height of 1½ inches (3.8 cm) with the stopcock fully open and the air supply to the burner shut off and taped. The 1½-inch (3.8 cm) flame height is obtained by adjusting the valve so that the uppermost portion (tip) of the flame is level with the tip of the metal prong (see Figure E–97.2) specified for adjustment of flame height. It is an important aspect of the evaluation that the flame height be adjusted with the tip of the flame level with the tip of the metal prong. After inserting the specimen, the stopcock shall be fully opened, and the burner flame applied vertically at the middle of the lower edge of the specimen for 12 seconds and the burner turned off. The cabinet door shall remain shut during testing.

(v) The after-flame shall be the time the specimen continues to flame after the burner flame is shut off.

(vi) After each specimen is removed, the test cabinet shall be cleared of fumes and smoke prior to testing the next specimen.

(vii) After both flaming and glowing have ceased, the char length shall be measured. The char length shall be the distance from the end of the specimen, which was exposed to the flame, to the end of a tear (made lengthwise) of the specimen through the center of the charred area as follows: The specimen shall be folded lengthwise and creased by hand along a line through the highest peak of the charred area. The hook shall be inserted in the specimen (or a hole, ¼-inch (.6 cm) diameter or less, punched out for the hook) at one side of the charred area ¼-inch (.6 cm) from the adjacent outside edge and ¼-inch (.6 cm) in from the lower end. A weight of sufficient size such that the weight and hook together shall equal the total tearing load required in Table E–97.1 of this section shall be attached to the hook.

(viii) A tearing force shall be applied gently to the specimen by grasping the corner of the cloth at the opposite edge of the char from the load and raising the specimen and weight clear of the supporting surface. The end of the tear shall be marked off on the edge and the char length measurement made along the undamaged edge.

Loads for determining char length applicable to the weight of the test cloth shall be as shown in Table E-97.1.

Table E-97.1[1]

Specified weight per square yard of cloth before any fire retardant treatment or coating—ounces	Total tearing weight for determining the charred length—pound
2.0 to 6.0.	0.25
Over 6.0 to 15.0.	0.50
Over 15.0 to 23.0.	0.75
Over 23.0.	1.0

(1) To change into S.I. (System International) units, 1 ounce=28.35 grams, 1 pound=453 grams, 1 yard=.91 meter

(ix) The after-flame time of the specimen shall be recorded to the nearest 0.2-second and the char length to the nearest 0.1-inch (.3 cm).

(5) *Report.* (i) The after-flame time and char length of the sample unit shall be the average of the results obtained from the individual specimens tested. All values obtained from the individual specimens shall be recorded.

(ii) The after-flame time shall be reported to the nearest 0.2-second and the char length to the nearest 0.1-inch (.3 cm).

(6) *Source.* These test requirements are contained in "Federal Test Method Standard 191, Method 5903 (1971)" and are reproduced for your convenience.

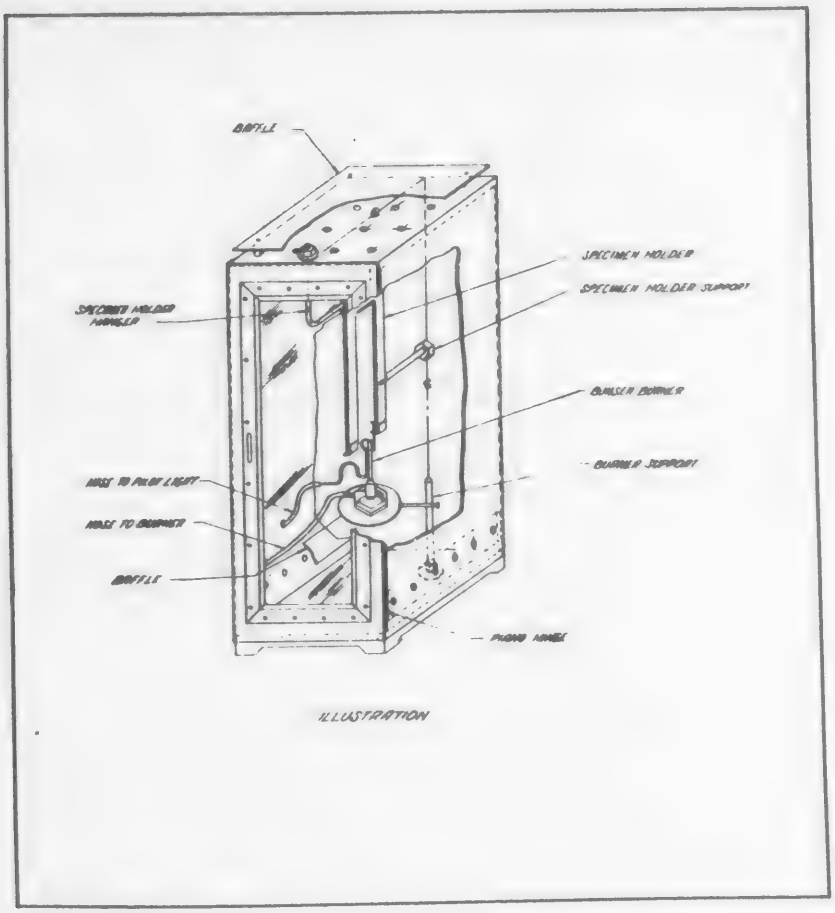


Figure E–97.1—Vertical flame resistance textile apparatus.
All given System International (S.I.) Unit: 1-inch = 2.54 cm. dimensions are in inches.

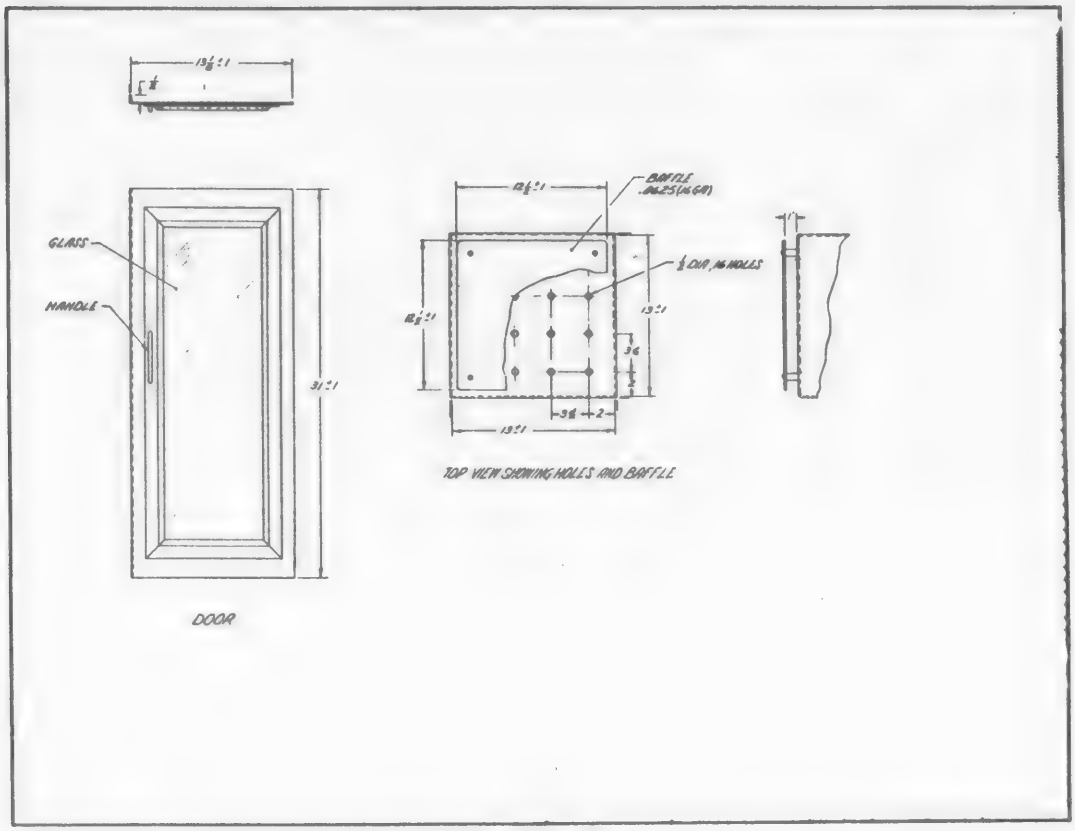


Figure E–97.2—Vertical flame resistance textile apparatus, door and top view w/ baffle.

All given dimensions are in inches. Systems International (S.I.) Unit: 1-inch = 2.54 cm.

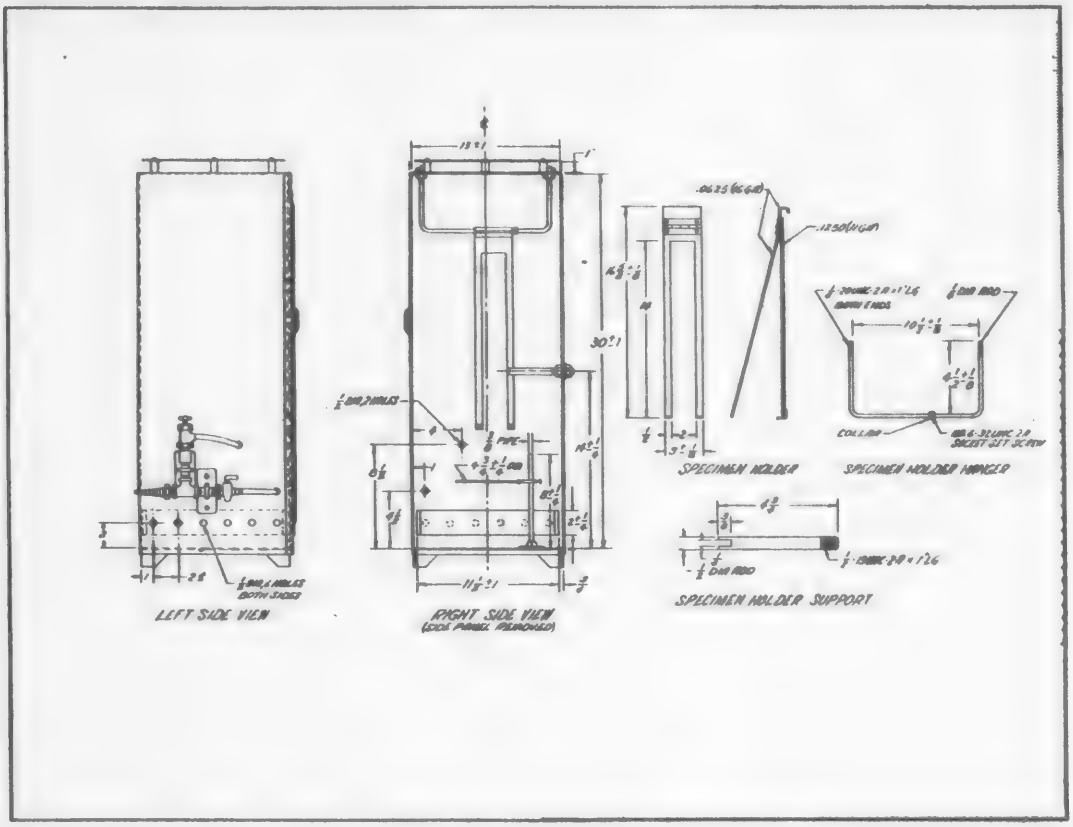


Figure E–97.3—Vertical flame resistance textile apparatus, view and details. All given dimensions are in inches. System International (S.I.) Unit: 1-inch = 2.54 cm.

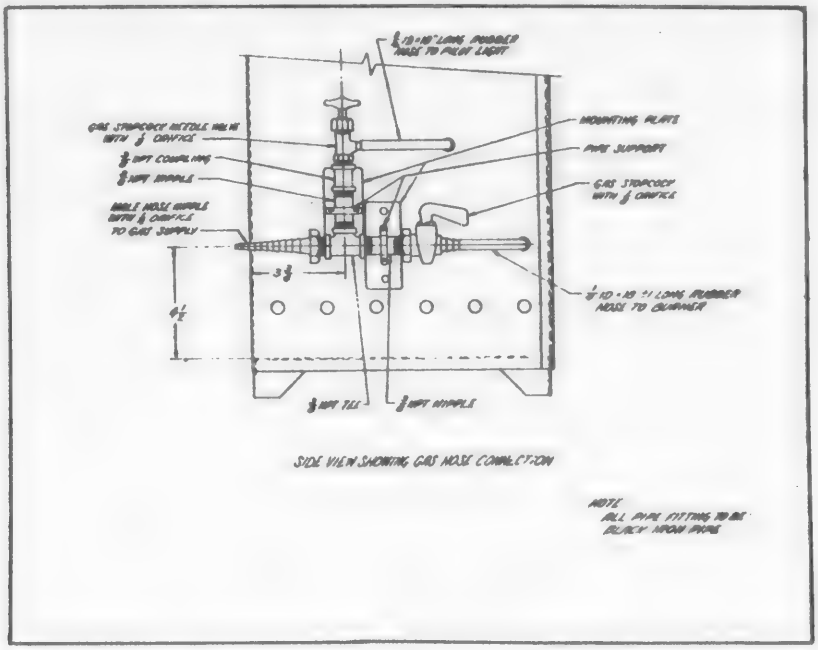


Figure E–97.4—Vertical flame resistance textile apparatus.
All given dimensions are in inches. System International (S.I.) Unit: 1 inch = 2.54 cm.

15. A new § 1926.98 is added to read as follows:

§ 1926.98 Respiratory protection for fire brigades.

(a) *General requirements.* (1) The employer shall provide at no cost to the employee and assure the use of respirators which comply with the requirements of this paragraph. The employer shall assure that respiratory protective devices worn by fire brigade members meet the requirements contained in § 1926.103 and the requirements contained in this paragraph, and are certified under 30 CFR Part 11.

(2) Approved self-contained breathing apparatus with full-facepiece, or with approved helmet or hood configuration, shall be provided to and worn by fire brigade members while working inside buildings or confined spaces where toxic products of combustion or an oxygen deficiency may be present. Such apparatus shall also be worn during emergency situations involving toxic substances.

(3) Approved self-contained breathing apparatus may be equipped with either a ≥buddy-breathing≥ device or a quick disconnect valve, even if these devices are not certified by NIOSH. If these accessories are used, they shall not cause damage to the apparatus, or restrict the air flow of the apparatus, or obstruct the normal operation of the apparatus.

(4) Approved self-contained compressed air breathing apparatus may be used with approved cylinders from other approved self-contained compressed air breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet DOT and NIOSH criteria.

(5) Self-contained breathing apparatus shall have a minimum service life rating of 30 minutes in accordance with the methods and requirements of the Mine Safety and Health Administration (MSHA) and NIOSH, except for escape self-contained breathing apparatus (ESCBA) used only for emergency escape purposes.

(6) Self-contained breathing apparatus shall be provided with an indicator which automatically sounds an audible alarm when the remaining service life of the apparatus is reduced to within a range of 20 to 25 percent of its rated service time.

(b) *Positive-pressure breathing apparatus.* (1) The employer shall assure that self-contained breathing apparatus ordered or purchased after July 1, 1981, for use by fire brigade members performing interior structural fire fighting operations, are of the pressure-demand or other positive-pressure type. Effective July 1, 1983, only pressure-demand or other positive-pressure self-contained breathing apparatus shall be worn by fire brigade members performing interior structural fire fighting.

(2) This paragraph does not prohibit the use of a self-contained breathing apparatus where the apparatus can be switched from a demand to a positive-pressure mode. However, such apparatus shall be in the positive-pressure mode when fire brigade members are performing interior structural fire fighting operations.

(3) Negative-pressure self-contained breathing apparatus with a rated service life of more than 2 hours and which have a minimum protection factor of 5,000, as determined by an acceptable quantitative fit test performed on each individual, is acceptable for use only during those interior structural fire fighting situations for which the employer demonstrates that long duration breathing apparatus is necessary. Quantitative fit test procedures shall be available for inspection by the Assistant Secretary or authorized representative. Such negative-pressure breathing apparatus will continue to be acceptable for 18 months after a positive-pressure breathing apparatus with the same or longer-rated service life is certified by NIOSH. After this 18-month period, all self-contained breathing apparatus used for these long duration situations shall be of the positive-pressure type.

(Approved by the Office of Management and Budget under control number1218-0075)

§ 1926.99 [Reserved]

16. In § 1926.102, new paragraphs (a) (6) through (8) are added to read as follows:

§ 1926.102 Eye and face protection.

(a) *General.*

* * * * *

(6) Protectors shall meet the following minimum requirements:

(i) They shall provide adequate protection against the particular hazards for which they are designed.

(ii) They shall be reasonably comfortable when worn under the designated conditions.

(iii) They shall fit snugly and shall not unduly interfere with the movements of the wearer.

(iv) They shall be durable.

(v) They shall be capable of being disinfected.

(vi) They shall be easily cleanable.

(7) Every protector shall be distinctly marked to facilitate identification only of the manufacturer.

(8) When limitations or precautions are indicated by the manufacturer, they shall be transmitted to the user and care taken to see that such limitations and precautions are strictly observed.

17. New paragraphs (d) through (i) are added to § 1926.103. The text of the standards reads as follows:

§ 1926.103 Respiratory protection.

* * * * *

(d) *Permissible practice.* (1) In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to the following requirements.

(2) Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protective program which shall include the requirements outlined in paragraph (e) of this section.

(3) The employee shall use the provided respiratory protection in accordance with instructions and training received.

(e) *Requirements for a minimal acceptable program.* (1) Written standard operating procedures governing the selection and use of respirators shall be established.

(2) Respirators shall be selected on the basis of hazards to which the worker is exposed.

(3) The user shall be instructed and trained in the proper use of respirators and their limitations.

(4) [Reserved]

(5) Respirators shall be regularly cleaned and disinfected. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use.

(6) Respirators shall be stored in a convenient, clean, and sanitary location.

(7) Respirators used routinely shall be inspected during cleaning. Worn or deteriorated parts shall be replaced. Respirators for emergency use such as self-contained devices shall be thoroughly inspected at least once a month and after each use.

(8) Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.

(9) There shall be regular inspection and evaluation to determine the continued effectiveness of the program.

(10) Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).

(11) Respirators shall be selected from among those jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health under the provisions of 30 CFR part 11.

(f) *Air quality.* (1) Compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration shall be of high purity. Oxygen shall meet the requirements of the United States Pharmacopoeia for medical or breathing oxygen. Breathing air shall meet at least the requirements of the specification for Grade D breathing air as described in Compressed Gas Association Commodity Specification G–7.1–1966. Compressed oxygen shall not be used in supplied-air respirators or in open circuit self-contained breathing apparatus that have previously used compressed air. Oxygen must never be used with air line respirators.

(2) Breathing air may be supplied to respirators from cylinders or air compressors.

(i) Cylinders shall be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 178).

(ii) The compressor for supplying air shall be equipped with necessary safety and standby devices. A breathing air-type compressor shall be used. Compressors shall be constructed and situated so as to avoid entry of contaminated air into the system and suitable in-line air purifying sorbent beds and filters installed to further assure breathing air quality. A receiver of sufficient capacity to enable the respirator wearer to escape from a contaminated atmosphere in event of compressor failure, and alarms to indicate compressor failure and overheating shall be installed in the system. If an oil-lubricated compressor is used, it shall have a high-temperature or carbon monoxide alarm, or both. If only a high-temperature alarm is used, the air from the compressor shall be frequently tested for carbon monoxide to insure that it meets the specifications in paragraph (f)(1) of this section.

(3) Air line couplings shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of air line respirators with nonrespirable gases or oxygen.

(4) Breathing gas containers shall be marked in accordance with American National Standard Method of Marking Portable Compressed Gas Containers to Identify the Material Contained, Z48.1–1954; Federal Specification BB–A–1034a, June 21, 1968, Air, Compressed for Breathing Purposes; or Interim Federal Specification GG–B–00675b, April 27, 1965, Breathing Apparatus, Self-Contained.

(g) *Use of respirators.* (1) Standard procedures shall be developed for respirator use. These should include all information and guidance necessary for their proper selection, use, and care. Possible emergency and routine uses of respirators should be anticipated and planned for.

(2) The correct respirator shall be specified for each job. The respirator type is usually specified in the work procedures by a qualified individual supervising the respiratory protective program. The individual issuing them shall be adequately instructed to insure that the correct respirator is issued.

(3) Written procedures shall be prepared covering safe use of respirators in dangerous atmospheres that might be

encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available respirators.

(i) In areas where the wearer, with failure of the respirator, could be overcome by a toxic or oxygen-deficient atmosphere, at least one additional man shall be present. Communications (visual, voice, or signal line) shall be maintained between both or all individuals present. Planning shall be such that one individual will be unaffected by any likely incident and have the proper rescue equipment to be able to assist the other(s) in case of emergency.

(ii) When self-contained breathing apparatus or hose masks with blowers are used in atmospheres immediately dangerous to life or health, standby men must be present with suitable rescue equipment.

(iii) Persons using air line respirators in atmospheres immediately hazardous to life or health shall be equipped with safety harnesses and safety lines for lifting or removing persons from hazardous atmospheres or other and equivalent provisions for the rescue of persons from hazardous atmospheres shall be used. A standby man or men with suitable self-contained breathing apparatus shall be at the nearest fresh air base for emergency rescue.

(4) Respiratory protection is no better than the respirator in use, even though it is worn conscientiously. Frequent random inspections shall be conducted by a qualified individual to assure that respirators are properly selected, used, cleaned, and maintained.

(5) For safe use of any respirator, it is essential that the user be properly instructed in its selection, use, and maintenance. Both supervisors and workers shall be so instructed by competent persons. Training shall provide the men an opportunity to handle the respirator, have it fitted properly, test its face-piece-to-face seal, wear it in normal air for a long familiarity period, and, finally, to wear it in a test atmosphere.

(i) Every respirator wearer shall receive fitting instructions including demonstrations and practice in how the respirator should be worn, how to adjust it, and how to determine if it fits properly. Respirators shall not be worn when conditions prevent a good face seal. Such conditions may be a growth of beard, sideburns, a skull cap that projects under the facepiece, or temple pieces on glasses. Also, the absence of one or both dentures can seriously affect the fit of a facepiece. The worker's diligence in observing these factors shall be evaluated by periodic check. To assure proper protection, the facepiece fit shall be checked by the wearer each time he puts on the respirator. This may be done by following the manufacturer's facepiece fitting instructions.

(ii) Providing respiratory protection for individuals wearing corrective glasses is a serious problem. A proper seal cannot be established if the temple bars of eye glasses extend through the sealing edge of the full facepiece. As a temporary measure, glasses with short temple bars or without temple bars may be taped to the wearer's head. Wearing of contact lenses in contaminated atmospheres with a respirator shall not be allowed. Systems have been developed for mounting corrective lenses inside full facepieces. When a workman must wear corrective lenses as part of the facepiece, the facepiece and lenses shall be fitted by qualified individuals to provide good vision, comfort, and a gas-tight seal.

(iii) If corrective spectacles or goggles are required, they shall be worn so as not to affect the fit of the facepiece. Proper selection of equipment will minimize or avoid this problem.

(h) *Maintenance and care of respirators.* (1) A program for maintenance and care of respirators shall be adjusted to the type of plant, working conditions, and hazards involved, and shall include the following basic services:

(i) Inspection for defects (including a leak check),

(ii) Cleaning and disinfecting,

(iii) Repair,

(iv) Storage

Equipment shall be properly maintained to retain its original effectiveness.

(2) (i) All respirators shall be inspected routinely before and after each use. A respirator that is not routinely used but is kept ready for emergency use shall be inspected after each use and at least monthly to assure that it is in satisfactory working condition.

(ii) Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be fully charged according to the manufacturer's instructions. It shall be determined that the regulator and warning devices function properly.

(iii) Respirator inspection shall include a check of the tightness of connections and the condition of the facepiece, headbands, valves, connecting tube, and canisters. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration. Stretching and manipulating rubber or elastomer parts with a massaging action will keep them pliable and flexible and prevent them from taking a set during storage.

(iv) A record shall be kept of inspection dates and findings for respirators maintained for emergency use.

(3) Routinely used respirators shall be collected, cleaned, and disinfected as frequently as necessary to insure that proper protection is provided for the wearer. Respirators maintained for emergency use shall be cleaned and disinfected after each use.

(4) Replacement or repairs shall be done only by experienced persons with parts designed for the respirator. No attempt shall be made to replace components or to make adjustment or repairs beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.

(5) (i) After inspection, cleaning, and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators placed at stations and work areas for emergency use should be quickly accessible at all times and should be stored in compartments built for the purpose. The compartments should be clearly marked. Routinely used respirators, such as dust respirators, may be placed in plastic bags. Respirators should not be stored in such places as lockers or tool boxes unless they are in carrying cases or cartons.

(ii) Respirators should be packed or stored so that the facepiece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer setting in an abnormal position.

(iii) Instructions for proper storage of emergency respirators, such as gas masks and self-contained breathing apparatus, are found in "use and care" instructions usually mounted inside the carrying case lid.

(i) *Identification of gas mask canisters.* (1) The primary means of identifying a gas mask canister shall be by means of properly worded labels. The secondary means of identifying a gas mask canister shall be by a color code.

(2) All who issue or use gas masks falling within the scope of this section shall see that all gas mask canisters purchased or used by them are properly labeled and colored in accordance with these requirements before they are placed in service and that the labels and colors are properly maintained at all times thereafter until the canisters have completely served their purpose.

(3) On each canister shall appear in bold letters the following:

(i)—

Canister for ————————
(Name for atmospheric contaminant)

or

Type N Gas Mask Canister

(ii) In addition, essentially the following wording shall appear beneath the appropriate phrase on the canister label: "For respiratory protection in atmospheres containing not more than ———— percent by volume of ————————."

(Name of atmospheric contaminant)

(4) Canisters having a special high-efficiency filter for protection against radionuclides and other highly toxic particulates shall be labeled with a statement of the type and degree of protection afforded by the filter. The label shall be affixed to the neck end of, or to the gray stripe which is around and near the top of, the canister. The degree of protection shall be marked as the percent of penetration of the canister by a 0.3–micron-diameter dioctyl phthalate (DOP) smoke at a flow rate of 85 liters per minute.

(5) Each canister shall have a label warning that gas masks should be used only in atmospheres containing sufficient oxygen to support life (at least 16 percent by volume), since gas mask canisters are only designed to neutralize or remove contaminants from the air.

(6) Each gas mask canister shall be painted a distinctive color or combination of colors indicated in Table E–5. All colors used shall be such that they are clearly identifiable by the user and clearly distinguishable from one another. The color coating used shall offer a high degree of resistance to chipping, scaling, peeling, blistering, fading, and the effects of the ordinary atmospheres to which they may be exposed under normal conditions of storage and use. Appropriately colored pressure sensitive tape may be used for the stripes.

TABLE E–5

Atmospheric contaminants to be protected against	Colors assigned [1]
Acid gases	White.
Hydrocyanic acid gas	White with ½-inch green stripe completely around the canister near the bottom.
Chlorine gas	White with ½-inch yellow stripe completely around the canister near the bottom.
Organic vapors	Black.
Ammonia gas	Green.
Acid gases and ammonia gas	Green with ½-inch white stripe completely around the canister near the bottom.
Carbon monoxide	Blue.
Acid gases and organic vapors	Yellow.
Hydrocyanic acid gas and chloropicrin vapor	Yellow with ½-inch blue stripe completely around the canister near the bottom.
Acid gases, organic vapors, and ammonia gases	Brown.
Radioactive materials, excepting tritium and noble gases	Purple (Magenta).
Particulates (dusts, fumes, mists, fogs, or smokes) in combination with any of the above gases or vapors.	Canister color for contaminant, as designated above, with ½-inch gray stripe completely around the canister near the top.
All of the above atmospheric contaminants	Red with ½-inch gray stripe completely around the canister near the top.

[1] Gray shall not be assigned as the main color for a canister designed to remove acids or vapors.

NOTE: Orange shall be used as a complete body, or stripe color to represent gases not included in this table. The user will need to refer to the canister label to determine the degree of protection the canister will afford.

(Approved by the Office of Management and Budget under control number 1218–0099)

Subpart F—Fire Protection and Prevention

18. In § 1926.150, new paragraphs (c)(1) (xi) through (xiv) are added to read as follows:

§ 1926.150 Fire protection.

* * * * *

(c) *Portable firefighting equipment—*

(1) *Fire extinguishers and small hose lines.*

* * * * *

(xi) *Employment and training.* Where the employer has provided portable fire extinguishers for employee use in the workplace, the employer shall also provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage fire fighting.

(xii) The employer shall provide the education required in paragraph (c)(1)(xi) of this section upon initial employment and at least annually thereafter.

(xiii) The employer shall assure that portable fire extinguishers are maintained in a fully charged and operable condition and kept in their designated places at all times except during use.

(xiv) The employer shall assure that portable fire extinguishers are subjected to an annual maintenance check. Stored pressure extinguishers do not require an internal examination. The employer shall record the annual maintenance date and retain this record for one year after the last entry or the life of the shell, whichever is less. The record shall be available to the Assistant Secretary upon request.

19. In § 1926.152, new paragraphs (b)(5) and (h) through (k) are added to read as follows:

§ 1926.152 Flammable and combustible liquids.

* * * * *

(b) *Indoor storage of flammable and combustible liquids.*

* * * * *

(5) *Quantity.* The quantity of flammable or combustible liquids kept in the vicinity of spraying operations shall be the minimum required for operations and should ordinarily not exceed a supply for 1 day or one shift. Bulk storage of portable containers of flammable or combustible liquids shall be in a separate, constructed building detached from other important

buildings or cut off in a standard manner.

* * * * *

(h) *Scope.* This section applies to the handling, storage, and use of flammable and combustible liquids with a flashpoint below 200° F (93.33° C). This section does not apply to:

(1) Bulk transportation of flammable and combustible liquids; and

(2) Storage, handling, and use of fuel oil tanks and containers connected with oil burning equipment.

(i) *Tank storage*—(1) *Design and construction of tanks*—(i) *Materials.* (A) Tanks shall be built of steel except as provided in paragraphs (i)(1)(i) (B) through (E) of this section.

(B) Tanks may be built of materials other than steel for installation underground or if required by the properties of the liquid stored. Tanks located above ground or inside buildings shall be of noncombustible construction.

(C) Tanks built of materials other than steel shall be designed to specifications embodying principles recognized as good engineering design for the material used.

(D) Unlined concrete tanks may be used for storing flammable or combustible liquids having a gravity of 40° API or heavier. Concrete tanks with special lining may be used for other services provided the design is in accordance with sound engineering practice.

(E) [Reserved]

(F) Special engineering consideration shall be required if the specific gravity of the liquid to be stored exceeds that of water or if the tanks are designed to contain flammable or combustible liquids at a liquid temperature below 0°F.

(ii) *Fabrication.* (A) [Reserved]

(B) Metal tanks shall be welded, riveted, and caulked, brazed, or bolted, or constructed by use of a combination of these methods. Filler metal used in brazing shall be nonferrous metal or an alloy having a melting point above 1000° F. and below that of the metal joined.

(iii) *Atmospheric tanks.* (A) Atmospheric tanks shall be built in accordance with acceptable good standards of design. Atmospheric tanks may be built in accordance with:

(1) Underwriters' Laboratories, Inc., Subjects No. 142, Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids, 1968; No. 58, Standard for Steel Underground Tanks for Flammable and Combustible Liquids, Fifth Edition, December 1961; or No. 80, Standard for Steel Inside Tanks for Oil-Burner Fuel, September 1963.

(2) American Petroleum Institute Standards No. 12A, Specification for Oil Storage Tanks with Riveted Shells, Seventh Edition, September 1951, or No. 650, Welded Steel Tanks for Oil Storage, Third Edition, 1966.

(3) American Petroleum Institute Standards No. 12B, Specification for Bolted Production Tanks, Eleventh Edition, May 1958, and Supplement 1, March 1962; No. 12D, Specification for Large Welded Production Tanks, Seventh Edition, August 1957; or No. 12F, Specification for Small Welded Production Tanks, Fifth Edition, March 1961. Tanks built in accordance with these standards shall be used only as production tanks for storage of crude petroleum in oil-producing areas.

(B) Tanks designed for underground service not exceeding 2,500 gallons (9,462.5 L) capacity may be used aboveground.

(C) Low-pressure tanks and pressure vessels may be used as atmospheric tanks.

(D) Atmospheric tanks shall not be used for the storage of a flammable or combustible liquid at a temperature at or above its boiling point.

(iv) *Low pressure tanks.* (A) The normal operating pressure of the tank shall not exceed the design pressure of the tank.

(B) Low-pressure tanks shall be built in accordance with acceptable standards of design. Low-pressure tanks may be built in accordance with:

(1) American Petroleum Institute Standard No. 620. Recommended Rules for the Design and Construction of Large, Welded, Low-Pressure Storage Tanks, Third Edition, 1966.

(2) The principles of the Code for Unfired Pressure Vessels, Section VIII of the ASME Boiler and Pressure Vessels Code, 1968.

(C) Atmospheric tanks built according to Underwriters' Laboratories, Inc., requirements in paragraph (i)(1)(iii)(A) of this section and shall be limited to 2.5 p.s.i.g. under emergency venting conditions.

This paragraph may be used for operating pressures not exceeding 1 p.s.i.g.

(D) Pressure vessels may be used as low-pressure tanks.

(v) *Pressure vessels.* (A) The normal operating pressure of the vessel shall not exceed the design pressure of the vessel.

(B) Pressure vessels shall be built in accordance with the Code for Unfired Pressure Vessels, Section VIII of the ASME Boiler and Pressure Vessel Code 1968.

(vi) *Provisions for internal corrosion.* When tanks are not designed in accordance with the American Petroleum Institute, American Society of Mechanical Engineers, or the Underwriters' Laboratories, Inc.'s, standards, or if corrosion is anticipated beyond that provided for in the design formulas used, additional metal thickness or suitable protective coatings or linings shall be provided to compensate for the corrosion loss expected during the design life of the tank.

(2) *Installation of outside aboveground tanks.*

(i) [Reserved]

(ii) *Spacing (shell-to-shell) between aboveground tanks.* (A) The distance between any two flammable or combustible liquid storage tanks shall not be less than 3 feet (0.912 m).

(B) Except as provided in paragraph (i)(2)(ii)(C) of this section, the distance between any two adjacent tanks shall not be less than one-sixth the sum of their diameters. When the diameter of one tank is less than one-half the diameter of the adjacent tank, the distance between the two tanks shall not be less than one-half the diameter of the smaller tank.

(C) Where crude petroleum in conjunction with production facilities are located in noncongested areas and have capacities not exceeding 126,000 gallons (3,000 barrels), the distance between such tanks shall not be less than 3 feet (0.912 m).

(D) Where unstable flammable or combustible liquids are stored, the distance between such tanks shall not be less than one-half the sum of their diameters.

(E) When tanks are compacted in three or more rows or in an irregular pattern, greater spacing or other means shall be provided so that inside tanks are accessible for firefighting purposes.

(F) The minimum separation between a liquefied petroleum gas container and a flammable or combustible liquid storage tank shall be 20 feet (6.08 m), except in the case of flammable or combustible liquid tanks operating at pressures exceeding 2.5 p.s.i.g. or equipped with emergency venting which will permit pressures to exceed 2.5 p.s.i.g. in which case the provisions of paragraphs (i)(2)(ii) (A) and (B) of this section shall apply. Suitable means shall be taken to prevent the accumulation of flammable or combustible liquids under adjacent liquefied petroleum gas containers such as by diversion curbs or grading. When flammable or combustible liquid storage tanks are within a diked area, the liquefied petroleum gas containers shall

be outside the diked area and at least 10 feet (3.04 m) away from the centerline of the wall of the diked area. The foregoing provisions shall not apply when liquefied petroleum gas containers of 125 gallons (473.125 L) or less capacity are installed adjacent to fuel oil supply tanks of 550 gallons (2,081.75 L) or less capacity.

(iii) [Reserved]

(iv) *Normal venting for aboveground tanks.* (A) Atmospheric storage tanks shall be adequately vented to prevent the development of vacuum or pressure sufficient to distort the roof of a cone roof tank or exceeding the design pressure in the case of other atmospheric tanks, as a result of filling or emptying, and atmospheric temperature changes.

(B) Normal vents shall be sized either in accordance with: *(1)* The American Petroleum Institute Standard 2000 (1968), Venting Atmospheric and Low-Pressure Storage Tanks; or *(2)* other accepted standard; or *(3)* shall be at least as large as the filling or withdrawal connection, whichever is larger but in no case less than 1¼ inch (3.175 cm) nominal inside diameter.

(C) Low-pressure tanks and pressure vessels shall be adequately vented to prevent development of pressure or vacuum, as a result of filling or emptying and atmospheric temperature changes, from exceeding the design pressure of the tank or vessel. Protection shall also be provided to prevent overpressure from any pump discharging into the tank or vessel when the pump discharge pressure can exceed the design pressure of the tank or vessel.

(D) If any tank or pressure vessel has more than one fill or withdrawal connection and simultaneous filling or withdrawal can be made, the vent size shall be based on the maximum anticipated simultaneous flow.

(E) Unless the vent is designed to limit the internal pressure 2.5 p.s.i. or less, the outlet of vents and vent drains shall be arranged to discharge in such a manner as to prevent localized overheating of any part of the tank in the event vapors from such vents are ignited.

(F) Tanks and pressure vessels storing Class IA liquids shall be equipped with venting devices which shall be normally closed except when venting to pressure or vacuum conditions. Tanks and pressure vessels storing Class IB and IC liquids shall be equipped with venting devices which shall be normally closed except when venting under pressure or vacuum conditions, or with approved flame arresters.

Exemption: Tanks of 3,000 bbls. (84 m^3) capacity or less containing crude petroleum in crude-producing areas; and, outside aboveground atmospheric tanks under 1,000 gallons (3,785 L) capacity containing other than Class IA flammable liquids may have open vents. (See paragraph (i)(2)(vi)(B) of this section.)

(G) Flame arresters or venting devices required in paragraph (i)(2)(iv)(F) of this section may be omitted for Class IB and IC liquids where conditions are such that their use may, in case of obstruction, result in tank damage.

(v) *Emergency relief venting for fire exposure for aboveground tanks.* (*a*) Every aboveground storage tank shall have some form of construction or device that will relieve excessive internal pressure caused by exposure fires.

(B) In a vertical tank the construction referred to in paragraph (i)(2)(v)(A) of this section may take the form of a floating roof, lifter roof, a weak roof-to-shell seam, or other approved pressure relieving construction. The weak roof-to-shell seam shall be constructed to fail preferential to any other seam.

(C) Where entire dependence for emergency relief is placed upon pressure relieving devices, the total venting capacity of both normal and emergency vents shall be enough to prevent rupture of the shell or bottom of the tank if vertical, or of the shell or heads if horizontal. If unstable liquids are stored, the effects of heat or gas resulting from polymerization, decomposition, condensation, or self-reactivity shall be taken into account. The total capacity of both normal and emergency venting devices shall be not less than that derived from Table F–10 except as provided in paragraph (i)(2)(v)(E) or (F) of this section. Such device may be a self-closing manhole cover, or one using long bolts that permit the cover to lift under internal pressure, or an additional or larger relief valve or valves. The wetted area of the tank shall be calculated on the basis of 55 percent of the total exposed area of a sphere or spheroid, 75 percent of the total exposed area of a horizontal tank and the first 30 feet (9.12 m) above grade of the exposed shell area of a vertical tank.

TABLE F–10—WETTED AREA VERSUS CUBIC FEET (METERS) FREE AIR PER HOUR

[14.7 psia and 60° F. (15.55° C)]

Square feet (m^2)	CFH (m^3H)	Square feet (m^2)	CFH (m^3H)	Square feet (m^2)	CFH (m^3H)
20 (1.84)	21,100 (590.8)	200 (18.4)	211,000 (5,908)	1,000 (90.2)	524,000 (14,672)
30 (2.76)	31,600 (884.8)	250 (23)	239,000 (6,692)	1,200 (110.4)	557,000 (15,596)
40 (3.68)	42,100 (1,178.8)	300 (27.6)	265,000 (7,420)	1,400 (128.8)	587,000 (16,436)
50 (4.6)	52,700 (1,475.6)	350 (32.2)	288,000 (8,064)	1,600 (147.2)	614,000 (17,192)
60 (5.52)	63,200 (1,769.6)	400 (36.8)	312,000 (8,736)	1,800 (165.6)	639,000 (17,892)
70 (6.44)	73,700 (2,063.6)	500 (46)	354,000 (9,912)	2,000 (180.4)	662,000 (18,536)
80 (7.36)	84,200 (2,357.6)	600 (55.2)	392,000 (10,976)	2,400 (220.8)	704,000 (19,712)
90 (8.28)	94,800 (2,654.4)	700 (64.4)	428,000 (11,984)	2,800 (257.6)	742,000 (20,776)
100 (9.2)	105,000 (2,940)	800 (73.6)	462,000 (12,936)	and	
120 (11.04)	126,000 (3,528)	900 (82.8)	493,000 (13,804)	over	
140 (12.88)	147,000 (4,116)	1,000 (90.2)	524,000 (14,672)		
160 (14.72)	168,000 (4,704)				
180 (16.56)	190,000 (5,320)				
200 (18.4)	211,000 (5,908)				

(D) For tanks and storage vessels designed for pressure over 1 p.s.i.g., the total rate of venting shall be determined in accordance with Table F–10, except that when the exposed wetted area of the surface is greater than 2,800 square feet (257.6 m^2), the total rate of venting shall be calculated by the following formula:

$CFH = 1{,}107A^{0.82}$

Where:

CFH=Venting requirement, in cubic feet (meters) of free air per hour.

A=Exposed wetted surface, in square feet (m^2).

Note: The foregoing formula is based on $Q=21,000A^{0.82}$.

(E) The total emergency relief venting capacity for any specific stable liquid may be determined by the following formula:

$V=1337\div L\sqrt{M}$

V=Cubic feet (meters) of free air per hour from Table F–10.

L=Latent heat of vaporization of specific liquid in B.t.u. per pound.

M=Molecular weight of specific liquids.

F) The required airflow rate of paragraph (i)(2)(v) (C) or (E) of this section may be multiplied by the appropriate factor listed in the following schedule when protection is provided as indicated. Only one factor may be used for any one tank.

0.5 for drainage in accordance with paragraph (i)(2)(vii)(B) of this section for tanks over 200 square feet (18.4 m^2) of wetted area.

0.3 for approved water spray.

0.3 for approved insulation.

0.15 for approved water spray with approved insulation.

(G) The outlet of all vents and vent drains on tanks equipped with emergency venting to permit pressures exceeding 2.5 p.s.i.g. shall be arranged to discharge in such a way as to prevent localized overheating of any part of the tank, in the event vapors from such vents are ignited.

(H) Each commercial tank venting device shall have stamped on it the opening pressure, the pressure at which the valve reaches the full open position, and the flow capacity at the latter pressure, expressed in cubic feet (meters) per hour of air at 60° F. (15.55° C) and at a pressure of 14.7 p.s.i.a.

(I) The flow capacity of tank venting devices 12 inches (30.48 cm) and smaller in nominal pipe size shall be determined by actual test of each type and size of vent. These flow tests may be conducted by the manufacturer if certified by a qualified impartial observer, or may be conducted by an outside agency. The flow capacity of tank venting devices larger than 12 inches (30.48 cm) nominal pipe size, including manhole covers with long bolts or equivalent, may be calculated provided that the opening pressure is actually measured, the rating pressure and corresponding free orifice area are stated, the word "calculated" appears on the nameplate, and the computation is based on a flow coefficient of 0.5 applied to the rated orifice area.

(vi) *Vent piping for aboveground tanks.* (A) Vent piping shall be constructed in accordance with paragraph (c) of this section.

(B) Where vent pipe outlets for tanks storing Class I liquids are adjacent to buildings or public ways, they shall be located so that the vapors are released at a safe point outside of buildings and not less than 12 feet (3.648 m) above the adjacent ground level. In order to aid their dispersion, vapors shall be discharged upward or horizontally away from closely adjacent walls. Vent outlets shall be located so that flammable vapors will not be trapped by eaves or other obstructions and shall be at least 5 feet (1.52 m) from building openings.

(C) When tank vent piping is manifolded, pipe sizes shall be such as to discharge, within the pressure limitations of the system, the vapors they may be required to handle when manifolded tanks are subject to the same fire exposure.

(vii) *Drainage, dikes, and walls for aboveground tanks*—(A) *Drainage and diked areas.* The area surrounding a tank or a group of tanks shall be provided with drainage as in paragraph (i)(2)(vii)(B) of this section, or shall be diked as provided in (i)(2)(vii)(C) of this section, to prevent accidental discharge of liquid from endangering adjoining property or reaching waterways.

(B) *Drainage.* Where protection of adjoining property or waterways is by means of a natural or manmade drainage system, such systems shall comply with the following:

(1) [Reserved]

(2) The drainage system shall terminate in vacant land or other area or in an impounding basin having a capacity not smaller than that of the largest tank served. This termination area and the route of the drainage system shall be so located that, if the flammable or combustible liquids in the drainage system are ignited, the fire will not seriously expose tanks or adjoining property.

(C) *Diked areas.* Where protection of adjoining property or waterways is accomplished by retaining the liquid around the tank by means of a dike, the volume of the diked area shall comply with the following requirements:

(1) Except as provided in paragraph (i)(2)(vii)(C)(2) of this section, the volumetric capacity of the diked area shall not be less than the greatest amount of liquid that can be released from the largest tank within the diked area, assuming a full tank. The capacity of the diked area enclosing more than one tank shall be calculated by deducting the volume of the tanks other than the largest tank below the height of the dike.

(2) For a tank or group of tanks with fixed roofs containing crude petroleum with boilover characteristics, the volumetric capacity of the diked area shall be not less than the capacity of the largest tank served by the enclosure, assuming a full tank. The capacity of the diked enclosure shall be calculated by deducting the volume below the height of the dike of all tanks within the enclosure.

(3) Walls of the diked area shall be of earth, steel, concrete or solid masonry designed to be liquidtight and to withstand a full hydrostatic head. Earthen walls 3 feet (0.912 m) or more in height shall have a flat section at the top not less than 2 feet (0.608 m) wide. The slope of an earthen wall shall be consistent with the angle of repose of the material of which the wall is constructed.

(4) The walls of the diked area shall be restricted to an average height of 6 feet (1.824 m) above interior grade.

(5) [Reserved]

(6) No loose combustible material, empty or full drum or barrel, shall be permitted within the diked area.

(viii) *Tank openings other than vents for aboveground tanks.*

(A)–(C) [Reserved]

(D) Openings for gaging shall be provided with a vaportight cap or cover.

(E) For Class IB and Class IC liquids other than crude oils, gasolines, and asphalts, the fill pipe shall be so designed and installed as to minimize the possibility of generating static electricity. A fill pipe entering the top of a tank shall terminate within 6 inches (15.24 cm) of the bottom of the tank and shall be installed to avoid excessive vibration.

(F) Filling and emptying connections which are made and broken shall be located outside of buildings at a location free from any source of ignition and not less than 5 feet (1.52 m) away from any building opening. Such connection shall be closed and liquidtight when not in use. The connection shall be properly identified.

(3) *Installation of underground tanks*—(i) *Location.* Excavation for underground storage tanks shall be made with due care to avoid undermining of foundations of existing structures. Underground tanks or tanks under buildings shall be so located with respect to existing building foundations and supports that the loads carried by the latter cannot be transmitted to the tank. The distance from any part of a tank storing Class I liquids to the nearest wall of any basement or pit shall be not less than 1 foot (0.304 m), and to any property line that may be built upon, not less than 3 feet (0.912 m). The distance from any part of a tank storing Class II or Class III liquids to the nearest wall of any basement, pit or property

line shall be not less than 1 foot (0.304 m).

(ii) *Depth and cover.* Underground tanks shall be set on firm foundations and surrounded with at least 6 inches (15.24 cm) of noncorrosive, inert materials such as clean sand, earth, or gravel well tamped in place. The tank shall be placed in the hole with care since dropping or rolling the tank into the hole can break a weld, puncture or damage the tank, or scrape off the protective coating of coated tanks. Tanks shall be covered with a minimum of 2 feet (0.608 m) of earth, or shall be covered with not less than 1 foot (0.304 m) of earth, on top of which shall be placed a slab of reinforced concrete not less than 4 inches (10.16 cm) thick. When underground tanks are, or are likely to be, subject to traffic, they shall be protected against damage from vehicles passing over them by at least 3 feet (0.912 m) of earth cover, or 18 inches (45.72 cm) of well-tamped earth, plus 6 inches (15.24 cm) of reinforced concrete or 8 inches (20.32 cm) of asphaltic concrete. When asphaltic or reinforced concrete paving is used as part of the protection, it shall extend at least 1 foot (0.304 m) horizontally beyond the outline of the tank in all directions.

(iii) *Corrosion protection.* Corrosion protection for the tank and its piping shall be provided by one or more of the following methods:

(A) Use of protective coatings or wrappings;

(B) Cathodic protection; or,

(C) Corrosion resistant materials of construction.

(iv) *Vents.* (A) Location and arrangement of vents for Class I liquids. Vent pipes from tanks storing Class I liquids shall be so located that the discharge point is outside of buildings, higher than the fill pipe opening, and not less than 12 feet (3.648 m) above the adjacent ground level. Vent pipes shall discharge only upward in order to disperse vapors. Vent pipes 2 inches (5.08 cm) or less in nominal inside diameter shall not be obstructed by devices that will cause excessive back pressure. Vent pipe outlets shall be so located that flammable vapors will not enter building openings, or be trapped under eaves or other obstructions. If the vent pipe is less than 10 feet (3.04 m) in length, or greater than 2 inches (5.08 cm) in nominal inside diameter, the outlet shall be provided with a vacuum and pressure relief device or there shall be an approved flame arrester located in the vent line at the outlet or within the approved distance from the outlet.

(B) Size of vents. Each tank shall be vented through piping adequate in size to prevent blow-back of vapor or liquid at the fill opening while the tank is being filled. Vent pipes shall be not less than 1¼ inch (3.175 cm) nominal inside diameter.

TABLE F–11—VENT LINE DIAMETERS

Maximum flow GPM (L)	Pipe length [1]		
	50 feet (15.2 m)	100 feet (30.4 m)	200 feet (60.8 m)
	Inches (cm)	Inches (cm)	Inches (cm)
100 (378.5)	1¼ (3.175)	1¼ (3.175)	1¼ (3.175)
200 (757)	1¼ (3.175)	1¼ (3.175)	1¼ (3.175)
300 (1,135.5)	1¼ (3.175)	1¼ (3.175)	1½ (3.81)
400 (1,514)	1¼ (3.175)	1½ (3.81)	2 (5.08)
500 (1,892.5)	1½ (3.81)	1½ (3.81)	2 (5.08)
600 (2,271)	1½ (3.81)	2 (5.08)	2 (5.08)
700 (2,649.5)	2 (5.08)	2 (5.08)	2 (5.08)
800 (3,028)	2 (5.08)	2 (5.08)	3 (7.62)
900 (3,406.5)	2 (5.08)	2 (5.08)	3 (7.62)
1,000 (3,785)	2 (5.08)	2 (5.08)	3 (7.62)

[1] Vent lines of 50 ft. (15.2 m), 100 ft. (30.4 m), and 200 ft. (60.8 m) of pipe plus 7 ells.

(C) Location and arrangement of vents for Class II or Class III liquids. Vent pipes from tanks storing Class II or Class III flammable liquids shall terminate outside of the building and higher than the fill pipe opening. Vent outlets shall be above normal snow level. They may be fitted with return bends, coarse screens or other devices to minimize ingress of foreign material.

(D) Vent piping shall be constructed in accordance with paragraph (3)(iv)(C) of this section. Vent pipes shall be so laid as to drain toward the tank without sags or traps in which liquid can collect. They shall be located so that they will not be subjected to physical damage. The tank end of the vent pipe shall enter the tank through the top.

(E) When tank vent piping is manifolded, pipe sizes shall be such as to discharge, within the pressure limitations of the system, the vapors they may be required to handle when manifolded tanks are filled simultaneously.

(v) *Tank openings other than vents.* (A) Connections for all tank openings shall be vapor or liquid tight.

(B) Openings for manual gaging, if independent of the fill pipe, shall be provided with a liquid-tight cap or cover. If inside a building, each such opening shall be protected against liquid overflow and possible vapor release by means of a spring loaded check valve or other approved device.

(C) Fill and discharge lines shall enter tanks only through the top. Fill lines shall be sloped toward the tank.

(D) For Class IB and Class IC liquids other than crude oils, gasolines, and asphalts, the fill pipe shall be so designed and installed as to minimize the possibility of generating static electricity by terminating within 6 inches (15.24 cm) of the bottom of the tank.

(E) Filling and emptying connections which are made and broken shall be located outside of buildings at a location free from any source of ignition and not less than 5 feet (1.52 m) away from any building opening. Such connection shall be closed and liquidtight when not in use. The connection shall be properly identified.

(4) *Installation of tanks inside of buildings*—(i) *Location.* Tanks shall not be permitted inside of buildings except as provided in paragraphs (e), (g), (h), or (i) of this section.

(ii) *Vents.* Vents for tanks inside of buildings shall be as provided in paragraphs (i)(2) (iv), (v), (vi)(B), and (3)(iv) of this section, except that

emergency venting by the use of weak roof seams on tanks shall not be permitted. Vents shall discharge vapors outside the buildings.

(iii) *Vent piping.* Vent piping shall be constructed in accordance with paragraph (c) of this section.

(iv) *Tank openings other than vents.* (A) Connections for all tank openings shall be vapor or liquidtight. Vents are covered in paragraph (i)(4)(ii) of this section.

(B) Each connection to a tank inside of buildings through which liquid can normally flow shall be provided with an internal or an external valve located as close as practical to the shell of the tank. Such valves, when external, and their connections to the tank shall be of steel except when the chemical characteristics of the liquid stored are incompatible with steel. When materials other than steel are necessary, they shall be suitable for the pressures, structural stresses, and temperatures involved, including fire exposures.

(C) Flammable or combustible liquid tanks located inside of buildings, except in one-story buildings designed and protected for flammable or combustible liquid storage, shall be provided with an automatic-closing heat-actuated valve on each withdrawal connection below the liquid level, except for connections used for emergency disposal, to prevent continued flow in the event of fire in the vicinity of the tank. This function may be incorporated in the valve required in paragraph (i)(4)(iv)(B) of this section, and if a separate valve, shall be located adjacent to the valve required in paragraph (i)(4)(iv)(B) of this section.

(D) Openings for manual gaging, if independent of the fill pipe (see paragraph (i)(4)(iv)(F) of this section), shall be provided with a vaportight cap or cover. Each such opening shall be protected against liquid overflow and possible vapor release by means of a spring loaded check valve or other approved device.

(E) For Class IB and Class IC liquids other than crude oils, gasolines, and asphalts, the fill pipe shall be so designed and installed as to minimize the possibility of generating static electricity by terminating within 6 inches (15.24 cm) of the bottom of the tank.

(F) The fill pipe inside of the tank shall be installed to avoid excessive vibration of the pipe.

(G) The inlet of the fill pipe shall be located outside of buildings at a location free from any source of ignition and not less than 5 feet (1.52 m) away from any building opening. The inlet of the fill pipe shall be closed and liquidtight when not in use. The fill connection shall be properly identified.

(H) Tanks inside buildings shall be equipped with a device, or other means shall be provided, to prevent overflow into the building.

(5) *Supports, foundations, and anchorage for all tank locations*—(i) *General.* Tank supports shall be installed on firm foundations. Tank supports shall be of concrete, masonry, or protected steel. Single wood timber supports (not cribbing) laid horizontally may be used for outside aboveground tanks if not more than 12 inches (30.48 cm) high at their lowest point.

(ii) *Fire resistance.* Steel supports or exposed piling shall be protected by materials having a fire resistance rating of not less than 2 hours, except that steel saddles need not be protected if less than 12 inches (30.48 cm) high at their lowest point. Water spray protection or its equivalent may be used in lieu of fire-resistive materials to protect supports.

(iii) *Spheres.* The design of the supporting structure for tanks such as spheres shall receive special engineering consideration.

(iv) *Load distribution.* Every tank shall be so supported as to prevent the excessive concentration of loads on the supporting portion of the shell.

(v) *Foundations.* Tanks shall rest on the ground or on foundations made of concrete, masonry, piling, or steel. Tank foundations shall be designed to minimize the possibility of uneven settling of the tank and to minimize corrosion in any part of the tank resting on the foundation.

(vi) *Flood areas.* Where a tank is located in an area that may be subjected to flooding, the applicable precautions outlined in this subdivision shall be observed.

(A) No aboveground vertical storage tank containing a flammable or combustible liquid shall be located so that the allowable liquid level within the tank is below the established maximum flood stage, unless the tank is provided with a guiding structure such as described in paragraphs (i)(5)(vi) (M), (N), and (O) of this section.

(B) Independent water supply facilities shall be provided at locations where there is no ample and dependable public water supply available for loading partially empty tanks with water.

(C) In addition to the preceding requirements, each tank so located that more than 70 percent, but less than 100 percent, of its allowable liquid storage capacity will be submerged at the established maximum flood stage, shall be safeguarded by one of the following methods: Tank shall be raised, or its height shall be increased, until its top extends above the maximum flood stage a distance equivalent to 30 percent or more of its allowable liquid storage capacity: *Provided, however,* That the submerged part of the tank shall not exceed two and one-half times the diameter. Or, as an alternative to the foregoing, adequate noncombustible structural guides, designed to permit the tank to float vertically without loss of product, shall be provided.

(D) Each horizontal tank so located that more than 70 percent of its storage capacity will be submerged at the established flood stage, shall be anchored, attached to a foundation of concrete or of steel and concrete, of sufficient weight to provide adequate load for the tank when filled with flammable or combustible liquid and submerged by flood waters to the established flood stage, or adequately secured by other means.

(E) [Reserved]

(F) At locations where there is no ample and dependable water supply, or where filling of underground tanks with liquids is impracticable because of the character of their contents, their use, or for other reasons, each tank shall be safeguarded against movement when empty and submerged by high ground water or flood waters by anchoring, weighting with concrete or other approved solid loading material, or securing by other means. Each such tank shall be so constructed and installed that it will safely resist external pressures due to high ground water or flood waters.

(G) At locations where there is an ample and dependable water supply available, underground tanks containing flammable or combustible liquids, so installed that more than 70 percent of their storage capacity will be submerged at the maximum flood stage, shall be so anchored, weighted, or secured by other means, as to prevent movement of such tanks when filled with flammable or combustible liquids, and submerged by flood waters to the established flood stage.

(H) Pipe connections below the allowable liquid level in a tank shall be provided with valves or cocks located as closely as practicable to the tank shell. Such valves and their connections to tanks shall be of steel or other material suitable for use with the liquid being stored. Cast iron shall not be permitted.

(I) At locations where an independent water supply is required, it shall be entirely independent of public power and water supply. Independent source of water shall be available when flood waters reach a level not less than 10 feet

(3.04 m) below the bottom of the lowest tank on a property.

(J) The self-contained power and pumping unit shall be so located or so designed that pumping into tanks may be carried on continuously throughout the rise in flood waters from a level 10 feet (3.04 m) below the lowest tank to the level of the potential flood stage.

(K) Capacity of the pumping unit shall be such that the rate of rise of water in all tanks shall be equivalent to the established potential average rate of rise of flood waters at any stage.

(L) Each independent pumping unit shall be tested periodically to insure that it is in satisfactory operating condition.

(M) Structural guides for holding floating tanks above their foundations shall be so designed that there will be no resistance to the free rise of a tank, and shall be constructed of noncombustible material.

(N) The strength of the structure shall be adequate to resist lateral movement of a tank subject to a horizontal force in any direction equivalent to not less than 25 pounds per square foot (1.05 kg m^2) acting on the projected vertical cross-sectional area of the tank.

(O) Where tanks are situated on exposed points or bends in a shoreline where swift currents in flood waters will be present, the structures shall be designed to withstand a unit force of not less than 50 pounds per square foot (2.1 kg m^2).

(P) The filling of a tank to be protected by water loading shall be started as soon as flood waters reach a dangerous flood stage. The rate of filling shall be at least equal to the rate of rise of the floodwaters (or the established average potential rate of rise).

(Q) Sufficient fuel to operate the water pumps shall be available at all times to insure adequate power to fill all tankage with water.

(R) All valves on connecting pipelines shall be closed and locked in closed position when water loading has been completed.

(S) Where structural guides are provided for the protection of floating tanks, all rigid connections between tanks and pipelines shall be disconnected and blanked off or blinded before the floodwaters reach the bottom of the tank, unless control valves and their connections to the tank are of a type designed to prevent breakage between the valve and the tank shell.

(T) All valves attached to tanks other than those used in connection with water loading operations shall be closed and locked.

(U) If a tank is equipped with a swing line, the swing pipe shall be raised to and secured at its highest position.

(V) Inspections. The Assistant Secretary or his designated representative shall make periodic inspections of all plants where the storage of flammable or combustible liquids is such as to require compliance with the foregoing requirements, in order to assure the following:

(1) That all flammable or combustible liquid storage tanks are in compliance with these requirements and so maintained.

(2) That detailed printed instructions of what to do in flood emergencies are properly posted.

(3) That station operators and other employees depended upon to carry out such instructions are thoroughly informed as to the location and operation of such valves and other equipment necessary to effect these requirements.

(vii) *Earthquake areas.* In areas subject to earthquakes, the tank supports and connections shall be designed to resist damage as a result of such shocks.

(6) *Sources of ignition.* In locations where flammable vapors may be present, precautions shall be taken to prevent ignition by eliminating or controlling sources of ignition. Sources of ignition may include open flames, lightning, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, and mechanical), spontaneous ignition, chemical and physical-chemical reactions, and radiant heat.

(7) *Testing*—(i) *General.* All tanks, whether shop built or field erected, shall be strength tested before they are placed in service in accordance with the applicable paragraphs of the code under which they were built. The American Society of Mechanical Engineers (ASME) code stamp, American Petroleum Institute (API) monogram, or the label of the Underwriters' Laboratories, Inc., on a tank shall be evidence of compliance with this strength test. Tanks not marked in accordance with the above codes shall be strength tested before they are placed in service in accordance with good engineering principles and reference shall be made to the sections on testing in the codes listed in paragraphs (i)(1)(iii)(A), (iv)(B), or (v)(B) of this section.

(ii) *Strength.* When the vertical length of the fill and vent pipes is such that when filled with liquid the static head imposed upon the bottom of the tank exceeds 10 pounds per square inch (68.94 kPa), the tank and related piping shall be tested hydrostatically to a pressure equal to the static head thus imposed.

(iii) *Tightness.* In addition to the strength test called for in paragraphs (i)(7) (i) and (ii) of this section, all tanks and connections shall be tested for tightness. Except for underground tanks, this tightness test shall be made at operating pressure with air, inert gas, or water prior to placing the tank in service. In the case of field-erected tanks the strength test may be considered to be the test for tank tightness. Underground tanks and piping, before being covered, enclosed, or placed in use, shall be tested for tightness hydrostatically, or with air pressure at not less than 3 pounds per square inch (20.68 kPa) and not more than 5 pounds per square inch (34.47 kPa).

(iv) *Repairs.* All leaks or deformations shall be corrected in an acceptable manner before the tank is placed in service. Mechanical caulking is not permitted for correcting leaks in welded tanks except pinhole leaks in the roof.

(v) *Derated operations.* Tanks to be operated at pressures below their design pressure may be tested by the applicable provisions of paragraphs (i)(7) (i) or (ii) of this section, based upon the pressure developed under full emergency venting of the tank.

(j) *Piping, valves, and fittings*—(1) *General*—(i) *Design.* The design (including selection of materials) fabrication, assembly, test, and inspection of piping systems containing flammable or combustible liquids shall be suitable for the expected working pressures and structural stresses. Conformity with the applicable provisions of Pressure Piping, ANSI B31 series and the provisions of this paragraph, shall be considered prima facie evidence of compliance with the foregoing provisions.

(ii) *Exceptions.* This paragraph does not apply to any of the following:

(A) Tubing or casing on any oil or gas wells and any piping connected directly thereto.

(B) Motor vehicle, aircraft, boat, or portable or stationary engines.

(C) Piping within the scope of any applicable boiler and pressures vessel code.

(iii) *Definitions.* As used in this paragraph, piping systems consist of pipe, tubing, flanges, bolting, gaskets, valves, fittings, the pressure containing parts of other components such as expansion joints and strainers, and devices which serve such purposes as mixing, separating, snubbing, distributing, metering, or controlling flow.

(2) *Materials for piping, valves, and fittings*—(i) *Required materials.*

Materials for piping, valves, or fittings shall be steel, nodular iron, or malleable iron, except as provided in paragraphs (j)(2) (ii), (iii) and (iv) of this section.

(ii) *Exceptions.* Materials other than steel, nodular iron, or malleable iron may be used underground, or if required by the properties of the flammable or combustible liquid handled. Material other than steel, nodular iron, or malleable iron shall be designed to specifications embodying principles recognized as good engineering practices for the material used.

(iii) *Linings.* Piping, valves, and fittings may have combustible or noncombustible linings.

(iv) *Low-melting materials.* When low-melting point materials such as aluminum and brass or materials that soften on fire exposure such as plastics, or non-ductile materials such as cast iron, are necessary, special consideration shall be given to their behavior on fire exposure. If such materials are used in above ground piping systems or inside buildings, they shall be suitably protected against fire exposure or so located that any spill resulting from the failure of these materials could not unduly expose persons, important buildings or structures or can be readily controlled by remote valves.

(3) *Pipe joints.* Joints shall be made liquid tight. Welded or screwed joints or approved connectors shall be used. Threaded joints and connections shall be made up tight with a suitable lubricant or piping compound. Pipe joints dependent upon the friction characteristics of combustible materials for mechanical continuity of piping shall not be used inside buildings. They may be used outside of buildings above or below ground. If used above ground, the piping shall either be secured to prevent disengagement at the fitting or the piping system shall be so designed that any spill resulting from such disengagement could not unduly expose persons, important buildings or structures, and could be readily controlled by remote valves.

(4) *Supports.* Piping systems shall be substantially supported and protected against physical damage and excessive stresses arising from settlement, vibration, expansion, or contraction.

(5) *Protection against corrosion.* All piping for flammable or combustible liquids, both aboveground and underground, where subject to external corrosion, shall be painted or otherwise protected.

(6) *Valves.* Piping systems shall contain a sufficient number of valves to operate the system properly and to protect the plant. Piping systems in connection with pumps shall contain a sufficient number of valves to control properly the flow of liquid in normal operation and in the event of physical damage. Each connection to pipelines, by which equipments such as tankcars or tank vehicles discharge liquids by means of pumps into storage tanks, shall be provided with a check valve for automatic protection against backflow if the piping arrangement is such that backflow from the system is possible.

(7) *Testing.* All piping before being covered, enclosed, or placed in use shall be hydrostatically tested to 150 percent of the maximum anticipated pressure of the system, or pneumatically tested to 110 percent of the maximum anticipated pressure of the system, but not less than 5 pounds per square inch gage at the highest point of the system. This test shall be maintained for a sufficient time to complete visual inspection of all joints and connections, but for at least 10 minutes.

(k) *Marine service stations*—(1) *Dispensing. (i)* The dispensing area shall be located away from other structures so as to provide room for safe ingress and egress of craft to be fueled. Dispensing units shall in all cases be at least 20 feet (6.08 m) from any activity involving fixed sources of ignition.

(ii) Dispensing shall be by approved dispensing units with or without integral pumps and may be located on open piers, wharves, or floating docks or on shore or on piers of the solid fill type.

(iii) Dispensing nozzles shall be automatic-closing without a hold-open latch.

(2) *Tanks and pumps.* (i) Tanks, and pumps not integral with the dispensing unit, shall be on shore or on a pier of the solid fill type, except as provided in paragraphs (k)(2) (ii) and (iii) of this section.

(ii) Where shore location would require excessively long supply lines to dispensers, tanks may be installed on a pier provided that applicable portions of paragraph (b) of this section relative to spacing, diking, and piping are complied with and the quantity so stored does not exceed 1,100 gallons (4,163.5 L) aggregate capacity.

(iii) Shore tanks supplying marine service stations may be located above ground, where rock ledges or high water table make underground tanks impractical.

(iv) Where tanks are at an elevation which would produce gravity head on the dispensing unit, the tank outlet shall be equipped with a pressure control valve positioned adjacent to and outside the tank block valve specified in §1926.152(c)(8) of this section, so adjusted that liquid cannot flow by gravity from the tank in case of piping or hose failure.

(3) *Piping. (i)* Piping between shore tanks and dispensing units shall be as described in paragraph (k)(2)(iii) of this section, except that, where dispensing is from a floating structure, suitable lengths of oil-resistant flexible hose may be employed between the shore piping and the piping on the floating structure as made necessary by change in water level or shoreline.

TABLE F–19—ELECTRICAL EQUIPMENT HAZARDOUS AREAS—SERVICE STATIONS

Location	Class I Group D division	Extent of classified area
Underground tank:		
Fill opening	1	Any pit, box or space below grade level, any part of which is within the Division 1 or 2 classified area.
	2	Up to 18 inches (45.72 cm) above grade level within a horizontal radius of 10 feet (3.04 m) from a loose fill connection and within a horizontal radius of 5 feet (1.52 m) from a tight fill connection.
Vent—Discharging upward	1	Within 3 feet (0.912 m) of open end of vent, extending in all directions.
	2	Area between 3 feet (0.912 m) and 5 feet (1.52 m) of open end of vent, extending in all directions.
Dispenser:		
Pits	1	Any pit, box or space below grade level, any part of which is within the Division 1 or 2 classified area.

TABLE F–19—ELECTRICAL EQUIPMENT HAZARDOUS AREAS—SERVICE STATIONS—Continued

Location	Class I Group D division	Extent of classified area
Dispenser enclosure	1	The area 4 feet (1.216 m) vertically above base within the enclosure and 18 inches (45.72 cm) horizontally in all directions.
Outdoor	2	Up to 18 inches (45.72 cm) above grade level within 20 feet (6.08 m) horizontally of any edge of enclosure.
Indoor:		
With mechanical ventilation	2	Up to 18 inches (45.72 cm) above grade or floor level within 20 feet (6.08 m) horizontally of any edge of enclosure.
With gravity ventilation	2	Up to 18 inches (45.72 cm) above grade or floor level within 25 feet (7.6 m) horizontally of any edge of enclosure.
Remote pump—Outdoor	1	Any pit, box or space below grade level if any part is within a horizontal distance of 10 feet (3.04 m) from any edge of pump.
	2	Within 3 feet (0.912 m) of any edge of pump, extending in all directions. Also up to 18 inches (45.72 cm) above grade level within 10 feet (3.04 m) horizontally from any edge of pump.
Remote pump—Indoor	1	Entire area within any pit.
	2	Within 5 feet (1.52 m) of any edge of pump, extending in all directions. Also up to 3 feet (3.04 m) above floor or grade level within 25 feet (6.08 m) horizontally from any edge of pump.
Lubrication or service room	1	Entire area within any pit.
	2	Area up to 18 inches (45.72 cm) above floor or grade level within entire lubrication room.
Dispenser for Class I liquids	2	Within 3 feet (0.912 m) of any fill or dispensing point, extending in all directions.
Special enclosure inside building per § 1910.106(f)(1)(ii).	1	Entire enclosure.
Sales, storage and rest rooms	(1)	If there is any opening to these rooms within the extent of a Division 1 area, the entire room shall be classified as Division 1.

[1] Ordinary.

(ii) A readily accessible valve to shut off the supply from shore shall be provided in each pipeline at or near the approach to the pier and at the shore end of each pipeline adjacent to the point where flexible hose is attached.

(iii) Piping shall be located so as to be protected from physical damage.

(iv) Piping handling Class I liquids shall be grounded to control stray currents.

(4) *Definition; as used in this section:* Marine service station shall mean that portion of a property where flammable or combustible liquids used as fuels are stored and dispensed from fixed equipment on shore, piers, wharves, or floating docks into the fuel tanks of self-propelled craft, and shall include all facilities used in connection therewith.

20. In § 1926.153, new paragraphs (a)(3) and (m) through (o) are added to read as follows:

§ 1926.153 Liquefied petroleum gases.

(a) *Approval of equipment and systems.*

* * * * *

(3) *Definition.* As used in this section, *Containers*—All vessels, such as tanks, cylinders, or drums, used for transportation or storing liquefied petroleum gases.

* * * * *

(m) *Systems utilizing containers other than DOT containers*—(1) *Application.* This paragraph applies specifically to systems utilizing storage containers other than those constructed in accordance with DOT specifications. Paragraph (b) of this section applies to this paragraph unless otherwise noted in paragraph (b) of this section.

(2) *Design pressure and classification of storage containers.* Storage containers shall be designed and classified in accordance with Table F–31.

TABLE F–31

Container type	For gases with vapor press. Not to exceed lb. per sq. in. gage at 100° F. (37.8° C.)	Minimum design pressure of container, lb. per sq. in. gage	
		1949 and earlier editions of ASME Code (Par. U–68, U–69)	1949 edition of ASME Code (Par. U–200, U–201); 1950, 1952, 1956, 1959, 1962, 1965, and 1968 (Division 1) editions of ASME Code; All editions of API–ASME Code[3]
[1]80	[1]80	[1]80	[1]100
100	100	100	125
125	125	125	156
150	150	150	187
175	175	175	219
[2]200	215	200	250

[1] New storage containers of the 80 type have not been authorized since Dec. 31, 1947.

[2] Container type may be increased by increments of 25. The minimum design pressure of containers shall be 100% of the container type designation when constructed under 1949 or earlier editions of the ASME Code (Par. U–68 and U–69). The minimum design pressure of containers shall be 125% of the container type designation when constructed under: (1) the 1949 ASME Code (Par. U–200 and U–201), (2) 1950, 1952, 1956, 1959, 1962, 1965, and 1968 (Division 1) editions of the ASME Code, and (3) all editions of the API–ASME Code.

[3] Construction of containers under the API–ASME Code is not authorized after July 1, 1961.

(3) Containers with foundations attached (portable or semiportable b containers with suitable steel "runners" or "skids" and popularly known in the industry as "skid tanks") shall be designed, installed, and used in accordance with these rules subject to the following provisions:

(i) If they are to be used at a given general location for a temporary period not to exceed 6 months they need not have fire-resisting foundations or saddles but shall have adequate ferrous metal supports.

(ii) They shall not be located with the outside bottom of the container shell more than 5 feet (1.52 m) above the surface of the ground unless fire-resisting supports are provided.

(iii) The bottom of the skids shall not be less than 2 inches (5.08 cm) or more than 12 inches (30.48 cm) below the outside bottom of the container shell.

(iv) Flanges, nozzles, valves, fittings, and the like, having communication with the interior of the container, shall be protected against physical damage.

(v) When not permanently located on fire-resisting foundations, piping connections shall be sufficiently flexible to minimize the possibility of breakage or leakage of connections if the container settles, moves, or is otherwise displaced.

(vi) Skids, or lugs for attachment of skids, shall be secured to the container in accordance with the code or rules under which the container is designed and built (with a minimum factor of safety of four) to withstand loading in any direction equal to four times the weight of the container and attachments when filled to the maximum permissible loaded weight.

(4) Field welding where necessary shall be made only on saddle plates or brackets which were applied by the manufacturer of the tank.

(n) When LP-Gas and one or more other gases are stored or used in the same area, the containers shall be marked to identify their content. Marking shall be in compliance with American National Standard Z48.1–1954, "Method of Marking Portable Compressed Gas Containers To Identify the Material Contained."

(o) *Damage from vehicles.* When damage to LP-Gas systems from vehicular traffic is a possibility, precautions against such damage shall be taken.

21. A new undesignated center heading and §§ 1926.156 and 1926.157 are added to read as follows:

Fixed Fire Suppression Equipment

§ 1926.156 Fixed extinguishing systems, general.

(a) *Scope and application.* (1) This section applies to all fixed extinguishing systems installed to meet a particular OSHA standard except for automatic sprinkler systems which are covered by § 1910.159.

(2) This section also applies to fixed systems not installed to meet a particular OSHA standard, but which, by means of their operation, may expose employees to possible injury, death, or adverse health consequences caused by the extinguishing agent. Such systems are only subject to the requirements of paragraphs (b)(4) through (b)(7) and (c) of this section.

(3) Systems otherwise covered in paragraph (a)(2) of this section which are installed in areas with no employee exposure are exempted from the requirements of this section.

(b) *General requirements.* (1) Fixed extinguishing system components and agents shall be designed and approved for use on the specific fire hazards they are expected to control or extinguish.

(2) If for any reason a fixed extinguishing system becomes inoperable, the employer shall notify employees and take the necessary temporary precautions to assure their safety until the system is restored to operating order. Any defects or impairments shall be properly corrected by trained personnel.

(3) The employer shall provide a distinctive alarm or signaling system which complies with § 1926.159 and is capable of being perceived above ambient noise or light levels, on all extinguishing systems in those portions of the workplace covered by the extinguishing system to indicate when the extinguishing system is discharging. Discharge alarms are not required on systems where discharge is immediately recognizable.

(4) The employer shall provide effective safeguards to warn employees against entry into discharge areas where the atmosphere remains hazardous to employee safety or health.

(5) The employer shall post hazard warning or caution signs at the entrance to, and inside of, areas protected by fixed extinguishing systems which use agents in concentrations known to be hazardous to employee safety and health.

(6) The employer shall assure that fixed systems are inspected annually by a person knowledgeable in the design and function of the system to assure that the system is maintained in good operating condition.

(7) The employer shall assure that the weight and pressure of refillable containers is checked at least semi-annually. If the container shows a loss in net content or weight of more than 5 percent, or a loss in pressure of more than 10 percent, it shall be subjected to maintenance.

(8) The employer shall assure that factory charged nonrefillable containers which have no means of pressure indication are weighed at least semi-annually. If a container shows a loss in net weight or more than 5 percent it shall be replaced.

(9) The employer shall assure that inspection and maintenance dates are recorded on the container, on a tag attached to the container, or in a central location. A record of the last semi-annual check shall be maintained until the container is checked again or for the life of the container, whichever is less.

(10) The employer shall train employees designated to inspect, maintain, operate, or repair fixed extinguishing systems and annually review their training to keep them up-to-date in the functions they are to perform.

(11) The employer shall not use chlorobromomethane or carbon tetrachloride as an extinguishing agent where employees may be exposed.

(12) The employer shall assure that systems installed in the presence of corrosive atmospheres are constructed of non-corrosive material or otherwise protected against corrosion.

(13) Automatic detection equipment shall be approved, installed and maintained in accordance with § 1926.158.

(14) The employer shall assure that all systems designed for and installed in areas with climatic extremes shall operate effectively at the expected extreme temperatures.

(15) The employer shall assure that at least one manual station is provided for discharge activation of each fixed extinguishing system.

(16) The employer shall assure that manual operating devices are identified as to the hazard against which they will provide protection.

(17) The employer shall provide and assure the use of the personal protective equipment needed for immediate rescue of employees trapped in hazardous atmospheres created by an agent discharge.

(c) *Total flooding systems with potential health and safety hazards to employees.* (1) The employer shall provide an emergency action plan in accordance with § 1926.35 for each area within a workplace that is protected by a total flooding system which provides

agent concentrations exceeding the maximum safe levels set forth in paragraphs (b)(5) and (b)(6) of § 1926.157.

(2) Systems installed in areas where employees cannot enter during or after the system's operation are exempt from the requirements of paragraph (c) of this section.

(3) On all total flooding systems the employer shall provide a pre-discharge employee alarm which complies with § 1926.159, and is capable of being perceived above ambient light or noise levels before the system discharges, which will give employees time to safely exit from the discharge area prior to system discharge.

(4) The employer shall provide automatic actuation of total flooding systems by means of an approved fire detection device installed and interconnected with a pre-discharge employee alarm system to give employees time to safely exit from the discharge area prior to system discharge.

§ 1926.157 Fixed extinguishing systems, gaseous agent.

(a) *Scope and application*—(1) *Scope.* This section applies to all fixed extinguishing systems, using a gas as the extinguishing agent, installed to meet a particular OSHA standard. These systems shall also comply with § 1926.156. In some cases, the gas may be in a liquid state during storage.

(2) *Application.* The requirements of paragraphs (b)(2) and (b)(4) through (b)(6) shall apply only to total flooding systems.

(b) *Specific requirements.* (1) Agents used for initial supply and replenishment shall be of the type approved for the system's application. Carbon dioxide obtained by dry ice conversion to liquid is not acceptable unless it is processed to remove excess water and oil.

(2) Except during overhaul, the employer shall assure that the designed concentration of gaseous agents is maintained until the fire has been extinguished or is under control.

(3) The employer shall assure that employees are not exposed to toxic levels of gaseous agent or its decomposition products.

(4) The employer shall assure that the designed extinguishing concentration is reached within 30 seconds of initial discharge except for Halon systems which must achieve design concentration within 10 seconds.

(5) The employer shall provide a distinctive pre-discharge employee alarm capable of being perceived above ambient light or noise levels when agent design concentrations exceed the maximum safe level for employee exposure. A pre-discharge employee alarm for alerting employees before system discharge shall be provided on Halon 1211 and carbon dioxide systems with a design concentration of 4 percent or greater and for Halon 1301 systems with a design concentration of 10 percent or greater. The pre-discharge employee alarm shall provide employees time to safely exit the discharge area prior to system discharge.

(6)(i) Where egress from an area cannot be accomplished within one minute, the employer shall not use Halon 1301 in concentrations greater than 7 percent.

(ii) Where egress takes greater than 30 seconds but less than one minute, the employer shall not use Halon 1301 in a concentration greater than 10 percent.

(iii) Halon 1301 concentrations greater than 10 percent are only permitted in areas not normally occupied by employees provided that any employee in the area can escape within 30 seconds. The employer shall assure that no unprotected employees enter the area during agent discharge.

22. A new undesignated center heading and §§ 1926.158 and 1926.159 are added to read as follows:

Other Fire Protection Systems

§ 1926.158 Fire detection systems.

(a) *Scope and application.* This section applies to all automatic fire detection systems installed to meet the requirements of a particular OSHA standard.

(b) *Installation and restoration.* (1) The employer shall assure that all devices and equipment constructed and installed to comply with this standard are approved for the purpose for which they are intended.

(2) The employer shall restore all fire detection systems and components to normal operating condition as promptly as possible after each test or alarm. Spare detection devices and components which are normally destroyed in the process of detecting fires shall be available on the premises or from a local supplier in sufficient quantities and locations for prompt restoration of the system.

(c) *Maintenance and testing.* (1) The employer shall maintain all systems in an operable condition except during repairs or maintenance.

(2) The employer shall assure that fire detectors and fire detection systems are tested and adjusted as often as needed to maintain proper reliability and operating condition except that factory calibrated detectors need not be adjusted after installation.

(3) The employer shall assure that pneumatic and hydraulic operated detection systems installed after January 1, 1981, are equipped with supervised systems.

(4) The employer shall assure that the servicing, maintenance and testing of fire detection systems, including cleaning and necessary sensitivity adjustments are performed by a trained person knowledgeable in the operations and functions of the system.

(5) The employer shall also assure that fire detectors that need to be cleaned of dirt, dust, or other particulates in order to be fully operational are cleaned at regular periodic intervals.

(d) *Protection of fire detectors.* (1) The employer shall assure that fire detection equipment installed outdoors or in the presence of corrosive atmospheres be protected from corrosion. The employer shall provide a canopy, hood, or other suitable protection for detection equipment requiring protection from the weather.

(2) The employer shall locate or otherwise protect detection equipment so that it is protected from mechanical or physical impact which might render it inoperable.

(3) The employer shall assure that detectors are supported independently of their attachment to wires or tubing.

(e) *Response time.* (1) The employer shall assure that fire detection systems installed for the purpose of actuating fire extinguishment or suppression systems shall be designed to operate in time to control or extinguish a fire.

(2) The employer shall assure that fire detection systems installed for the purpose of employee alarm and evacuation be designed and installed to provide a warning for emergency action and safe escape of employees.

(3) The employer shall not delay alarms or devices initiated by fire detector actuation for more than 30 seconds unless such delay is necessary for the immediate safety of employees. When such delay is necessary, it shall be addressed in an emergency action plan meeting the requirements of 1926.35.

(f) *Number, location and spacing of detecting devices.* The employer shall assure that the number, spacing and location of fire detectors is based upon design data obtained from field experience, or tests, engineering surveys, the manufacturer's recommendations, or a recognized testing laboratory listing.

§ 1926.159 Employee alarm systems.

(a) *Scope and application.* (1) This section applies to all emergency

employee alarms installed to meet a particular OSHA standard. This section does not apply to those discharge or supervisory alarms required on various fixed extinguishing systems or to supervisory alarms on fire suppression, alarm or detection systems unless they are intended to be employee alarm systems.

(2) The requirements in this section that pertain to maintenance, testing and inspection shall apply to all local fire alarm signaling systems used for alerting employees regardless of the other functions of the system.

(3) All pre-discharge employee alarms installed to meet a particular OSHA standard shall meet the requirements of paragraphs (b) (1) through (4), (c), and (d)(1) of this section.

(b) *General requirements.* (1) The employee alarm system shall provide warning for necessary emergency action as called for in the emergency action plan, or for reaction time for safe escape of employees from the workplace or the immediate work area, or both.

(2) The employee alarm shall be capable of being perceived above ambient noise or light levels by all employees in the affected portions of the workplace. Tactile devices may be used to alert those employees who would not otherwise be able to recognize the audibile or visual alarm.

(3) The employee alarm shall be distinctive and recognizable as a signal to evacuate the work area or to perform actions designated under the emergency action plan.

(4) The employer shall explain to each employee the preferred means of reporting emergencies, such as manual pull box alarms, public address systems, radio or telephones. The employer shall post emergency telephone numbers near telephones, or employee notice boards, and other conspicuous locations when telephones serve as a means of reporting emergencies. Where a communication system also serves as the employee alarm system, all emergency messages shall have priority over all non-emergency messages.

(5) The employer shall establish procedures for sounding emergency alarms in the workplace. For those employers with 10 or fewer employees in a particular workplace, direct voice communication is an acceptable procedure for sounding the alarm provided all employees can hear the alarm. Such workplaces need not have a back-up system.

(c) *Installation and restoration.* (1) The employer shall assure that all devices, components, combinations of devices or systems constructed and installed to comply with this standard are approved. Steam whistles, air horns, strobe lights or similar lighting devices, or tactile devices meeting the requirements of this section are considered to meet this requirement for approval.

(2) The employer shall assure that all employee alarm systems are restored to normal operating condition as promptly as possible after each test or alarm. Spare alarm devices and components subject to wear or destruction shall be available in sufficient quantities and locations for prompt restoration of the system.

(d) *Maintenance and testing.* (1) The employer shall assure that all employee alarm systems are maintained in operating condition except when undergoing repairs or maintenance.

(2) The employer shall assure that a test of the reliability and adequacy of non-supervised employee alarm systems is made every two months. A different actuation device shall be used in each test of a multi-actuation device system so that no individual device is used for two consecutive tests.

(3) The employer shall maintain or replace power supplies as often as is necessary to assure a fully operational condition. Back-up means of alarm, such as employee runners or telephones, shall be provided when systems are out of service.

(4) The employer shall assure that employee alarm circuitry installed after January 1, 1981, which is capable of being supervised is supervised and that it will provide positive notification to assigned personnel whenever a deficiency exists in the system. The employer shall assure that all supervised employee alarm systems are tested at least annually for reliability and adequacy.

(5) The employer shall assure that the servicing, maintenance and testing of employee alarms are done by persons trained in the designed operation and functions necessary for reliable and safe operation of the system.

(e) *Manual operation.* The employer shall assure that manually operated actuation devices for use in conjunction with employee alarms are unobstructed, conspicuous and readily accessible.

Subpart G—Signs, Signals, and Barricades

23. In § 1926.200, a new paragraph (c)(3) is added to read as follows:

§ 1926.200 Accident prevention signs and tags.

* * * * *

(c) *Caution signs.*

* * * * *

(3) Standard color of the background shall be yellow; and the panel, black with yellow letters. Any letters used against the yellow background shall be black. The colors shall be those of opaque glossy samples as specified in Table 1 of American National Standard Z53.1–1967.

* * * * *

Subpart H—Materials Handling, Storage, Use, and Disposal

24. In § 1926.250, new paragraphs (c) and (d) are added to read as follows:

§ 1926.250 General requirements for storage.

* * * * *

(c) *Housekeeping.* Storage areas shall be kept free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage. Vegetation control will be exercised when necessary.

(d) *Dockboards (bridge plates).* (1) Portable and powered dockboards shall be strong enough to carry the load imposed on them.

(2) Portable dockboards shall be secured in position, either by being anchored or equipped with devices which will prevent their slipping.

(3) Handholds, or other effective means, shall be provided on portable dockboards to permit safe handling.

(4) Positive protection shall be provided to prevent railroad cars from being moved while dockboards or bridge plates are in position.

25. In § 1926.251, new paragraphs (a) (5) and (6), (b)(6)(i) and (ii), (c) (6) through (15), (d) (3) through (6), and (e) (3) through (8) are added to read as follows:

§ 1926.251 Rigging equipment for material handling.

(a) *General.*

* * * * *

(5) *Scope.* This section applies to slings used in conjunction with other material handling equipment for the movement of material by hoisting, in employments covered by this part. The types of slings covered are those made from alloy steel chain, wire rope, metal mesh, natural or synthetic fiber rope (conventional three strand construction), and synthetic web (nylon polyester, and polypropylene).

(6) *Inspections.* Each day before being used, the sling and all fastenings and attachments shall be inspected for damage or defects by a competent person designated by the employer. Additional inspections shall be performed during sling use, where service conditions warrant Damaged or

defective slings shall be immediately removed from service.

(b) *Alloy steel chains.*

* * * * *

(6) *Inspections.* (i) In addition to the inspection required by other paragraphs of this section, a thorough periodic inspection of alloy steel chain slings in use shall be made on a regular basis, to be determined on the basis of (A) frequency of sling use; (B) severity of service conditions; (C) nature of lifts being made; and (D) experience gained on the service life of slings used in similar circumstances. Such inspections shall in no event be at intervals greater than once every 12 months.

(ii) The employer shall make and maintain a record of the most recent month in which each alloy steel chain sling was thoroughly inspected, and shall make such record available for examination.

(c) *Wire rope.*

* * * * *

(6) Slings shall not be shortened with knots or bolts or other makeshift devices.

(7) Sling legs shall not be kinked.

(8) Slings used in a basket hitch shall have the loads balanced to prevent slippage.

(9) Slings shall be padded or protected from the sharp edges of their loads.

(10) Hands or fingers shall not be placed between the sling and its load while the sling is being tightened around the load.

(11) Shock loading is prohibited.

(12) A sling shall not be pulled from under a load when the load is resting on the sling.

(13) *Minimum sling lengths.* (i) Cable laid and 6 × 19 and 6 × 37 slings shall have a minimum clear length of wire rope 10 times the component rope diameter between splices, sleeves or end fittings.

(ii) Braided slings shall have a minimum clear length of wire rope 40 times the component rope diameter between the loops or end fittings.

(iii) Cable laid grommets, strand laid grommets and endless slings shall have a minimum circumferential length of 96 times their body diameter.

(14) *Safe operating temperatures.* Fiber core wire rope slings of all grades shall be permanently removed from service if they are exposed to temperatures in excess of 200°F (93.33° C). When nonfiber core wire rope slings of any grade are used at temperatures above 400°F (204.44° C) or below minus 60°F (15.55° C), recommendations of the sling manufacturer regarding use at that temperature shall be followed.

(15) *End attachments.* (i) Welding of end attachments, except covers to thimbles, shall be performed prior to the assembly of the sling.

(ii) All welded end attachments shall not be used unless proof tested by the manufacturer or equivalent entity at twice their rated capacity prior to initial use. The employer shall retain a certificate of the proof test, and make it available for examination.

(d) *Natural rope and synthetic fiber—*

* * * * *

(3) *Safe operating temperatures.* Natural and synthetic fiber rope slings, except for wet frozen slings, may be used in a temperature range from minus 20°F (-28.88° C) to plus 180°F (82.2° C) without decreasing the working load limit. For operations outside this temperature range and for wet frozen slings, the sling manufacturer's recommendations shall be followed.

(4) *Splicing.* Spliced fiber rope slings shall not be used unless they have been spliced in accordance with the following minimum requirements and in accordance with any additional recommendations of the manufacturer:

(i) In manila rope, eye splices shall consist of at least three full tucks, and short splices shall consist of at least six full tucks, three on each side of the splice center line.

(ii) In synthetic fiber rope, eye splices shall consist of at least four full tucks, and short splices shall consist of at least eight full tucks, four on each side of the center line.

(iii) Strand end tails shall not be trimmed flush with the surface of the rope immediately adjacent to the full tucks. This applies to all types of fiber rope and both eye and short splices. For fiber rope under 1 inch (2.54 cm) in diameter, the tail shall project at least six rope diameters beyond the last full tuck. For fiber rope 1 inch (2.54 cm) in diameter and larger, the tail shall project at least 6 inches (15.24 cm) beyond the last full tuck. Where a projecting tail interferes with the use of the sling, the tail shall be tapered and spliced into the body of the rope using at least two additional tucks (which will require a tail length of approximately six rope diameters beyond the last full tuck).

(iv) Fiber rope slings shall have a minimum clear length of rope between eye splices equal to 10 times the rope diameter.

(v) Knots shall not be used in lieu of splices.

(vi) Clamps not designed specifically for fiber ropes shall not be used for splicing.

(vii) For all eye splices, the eye shall be of such size to provide an included angle of not greater than 60 degrees at the splice when the eye is placed over the load or support.

(5) *End attachments.* Fiber rope slings shall not be used if end attachments in contact with the rope have sharp edges or projections.

(6) *Removal from service.* Natural and synthetic fiber rope slings shall be immediately removed from service if any of the following conditions are present:

(i) Abnormal wear.

(ii) Powdered fiber between strands.

(iii) Broken or cut fibers.

(iv) Variations in the size or roundness of strands.

(v) Discoloration or rotting.

(vi) Distortion of hardware in the sling.

(e) *Synthetic webbing (nylon, polyester, and polypropylene).*

* * * * *

(3) *Webbing.* Synthetic webbing shall be of uniform thickness and width and selvage edges shall not be split from the webbing's width.

(4) *Fittings.* Fittings shall be:

(i) Of a minimum breaking strength equal to that of the sling; and

(ii) Free of all sharp edges that could in any way damage the webbing.

(5) *Attachment of end fittings to webbing and formation of eyes.* Stitching shall be the only method used to attach end fittings to webbing and to form eyes. The thread shall be in an even pattern and contain a sufficient number of stitches to develop the full breaking strength of the sling.

(6) *Environmental conditions.* When synthetic web slings are used, the following precautions shall be taken:

(i) Nylon web slings shall not be used where fumes, vapors, sprays, mists or liquids of acids or phenolics are present.

(ii) Polyester and polypropylene web slings shall not be used where fumes, vapors, sprays, mists or liquids of caustics are present.

(iii) Web slings with aluminum fittings shall not be used where fumes, vapors, sprays, mists or liquids of caustics are present.

(7) *Safe operating temperatures.* Synthetic web slings of polyester and nylon shall not be used at temperatures in excess of 180°F (82.2° C). Polypropylene web slings shall not be used at temperatures in excess of 200°F (93.33° C).

(8) *Removal from service.* Synthetic web slings shall be immediately removed from service if any of the following conditions are present:

(i) Acid or caustic burns;

(ii) Melting or charring of any part of the sling surface;

(iii) Snags, punctures, tears or cuts;
(iv) Broken or worn stitches; or
(v) Distortion of fittings.
* * * * *

Subpart I—Hand and Power Tools

26. In § 1926.300, new paragraphs (b)(3) through (7) are added to read as follows:

§ 1926.300 General requirements.

* * * * *

(b) *Guarding—*

* * * * *

(3) *Types of guarding.* One or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips and sparks. Examples of guarding methods are—barrier guards, two-hand tripping devices, electronic safety devices, etc.

(4) *Point of operation guarding.* (i) Point of operation is the area on a machine where work is actually performed upon the material being processed.

(ii) The point of operation of machines whose operation exposes an employee to injury, shall be guarded. The guarding device shall be in conformity with any appropriate standards therefor, or, in the absence of applicable specific standards, shall be so designed and constructed as to prevent the operator from having any part of his body in the danger zone during the operating cycle.

(iii) Special handtools for placing and removing material shall be such as to permit easy handling of material without the operator placing a hand in the danger zone. Such tools shall not be in lieu of other guarding required by this section, but can only be used to supplement protection provided.

(iv) The following are some of the machines which usually require point of operation guarding:

(a) Guillotine cutters.
(b) Shears.
(c) Alligator shears.
(d) Power presses.
(e) Milling machines.
(f) Power saws.
(g) Jointers.
(h) Portable power tools.
(i) Forming rolls and calenders.

(5) *Exposure of blades.* When the periphery of the blades of a fan is less than 7 feet (2.128 m) above the floor or working level, the blades shall be guarded. The guard shall have openings no larger than 1/2 inch (1.27 cm).

(6) *Anchoring fixed machinery.* Machines designed for a fixed location shall be securely anchored to prevent walking or moving.

(7) *Guarding of abrasive wheel machinery—exposure adjustment.* Safety guards of the types described in paragraphs (b) (3) and (4) of this section, where the operator stands in front of the opening, shall be constructed so that the peripheral protecting member can be adjusted to the constantly decreasing diameter of the wheel. The maximum angular exposure above the horizontal plane of the wheel spindle as specified in paragraphs (b) (3) and (4) of this section shall never be exceeded, and the distance between the wheel periphery and the adjustable tongue or the end of the peripheral member at the top shall never exceed ¼ inch (0.635 cm). (See Figures O–18, O–19, O–20, O–21, O–22, and O–23.)

* * * * *

27. In § 1926.302, new paragraph (b)(10) is added to read as follows:

§ 1926.302 Power-operated hand tools.

* * * * *

(b) *Pneumatic hand tools.*

* * * * *

(10) *Abrasive blast cleaning nozzles.* The blast cleaning nozzles shall be equipped with an operating valve which must be held open manually. A support shall be provided on which the nozzle may be mounted when it is not in use.

28. In paragraph (b) of § 1926.303, the existing text is designated as paragraph (b)(1) and a new paragraph (b)(2) is added; in addition, a new paragraph (e) is added. The new paragraphs read as follows:

§ 1926.303 Abrasive wheel and tools.

(b) *Guarding—*

* * * * *

(2) *Guard design.* The safety guard shall cover the spindle end, nut, and flange projections. The safety guard shall be mounted so as to maintain proper alignment with the wheel, and the strength of the fastenings shall exceed the strength of the guard, except:

(i) Safety guards on all operations where the work provides a suitable measure of protection to the operator, may be so constructed that the spindle end, nut, and outer flange are exposed; and where the nature of the work is such as to entirely cover the side of the wheel, the side covers of the guard may be omitted; and

(ii) The spindle end, nut, and outer flange may be exposed on machines designed as portable saws.

* * * * *

(e) *Work rests.* On offhand grinding machines, work rests shall be used to support the work. They shall be of rigid construction and designed to be adjustable to compensate for wheel wear. Work rests shall be kept adjusted closely to the wheel with a maximum opening of ⅛ inch (0.3175 cm) to prevent the work from being jammed between the wheel and the rest, which may cause wheel breakage. The work rest shall be securely clamped after each adjustment. The adjustment shall not be made with the wheel in motion.

29. In § 1926.304, new paragraphs (g) through (i) are added to read as follows:

§ 1926.304 Woodworking tools.

* * * * *

(g) *Radial saws.* (1) The upper hood shall completely enclose the upper portion of the blade down to a point that will include the end of the saw arbor. The upper hood shall be constructed in such a manner and of such material that it will protect the operator from flying splinters, broken saw teeth, etc., and will deflect sawdust away from the operator. The sides of the lower exposed portion of the blade shall be guarded to the full diameter of the blade by a device that will automatically adjust itself to the thickness of the stock and remain in contact with stock being cut to give maximum protection possible for the operation being performed.

(h) *Hand-fed crosscut table saws.* (1) Each circular crosscut table saw shall be guarded by a hood which shall meet all the requirements of paragraph (c)(1) of this section for hoods for circular ripsaws.

(i) *Hand-fed ripsaws.* (1) Each circular hand-fed ripsaw shall be guarded by a hood which shall completely enclose that portion of the saw above the table and that portion of the saw above the material being cut. The hood and mounting shall be arranged so that the hood will automatically adjust itself to the thickness of and remain in contact with the material being cut but it shall not offer any considerable resistance to insertion of material to saw or to passage of the material being sawed. The hood shall be made of adequate strength to resist blows and strains incidental to reasonable operation, adjusting, and handling, and shall be so designed as to protect the operator from flying splinters and broken saw teeth. It shall be made of material that is soft enough so that it will be unlikely to cause tooth breakage. The hood shall be so mounted as to insure that its operation will be positive, reliable, and in true alignment with the saw; and the mounting shall be adequate in strength to resist any reasonable side thrust or other force tending to throw it out of line.

30. New paragraph (d) is added to § 1926.305 to read as follows:

§ 1926.305 Jacks—lever and ratchet, screw, and hydraulic.

* * * * *

(d)(1) *Operation and maintenance.* (i) After the load has been raised, it shall be cribbed, blocked, or otherwise secured at once.

(ii) Hydraulic jacks exposed to freezing temperatures shall be supplied with an adequate antifreeze liquid.

(iii) All jacks shall be properly lubricated at regular intervals.

(iv) Each jack shall be thoroughly inspected at times which depend upon the service conditions. Inspections shall be not less frequent than the following:

(*a*) For constant or intermittent use at one locality, once every 6 months,

(*b*) For jacks sent out of shop for special work, when sent out and when returned,

(*c*) For a jack subjected to abnormal load or shock, immediately before and immediately thereafter.

(v) Repair or replacement parts shall be examined for possible defects.

(vi) Jacks which are out of order shall be tagged accordingly, and shall not be used until repairs are made.

31. New §§ 1926.306 and 1926.307 are added to read as follows:

§ 1926.306 Air receivers.

(a) *General requirements*—(1) *Application.* This section applies to compressed air receivers, and other equipment used in providing and utilizing compressed air for performing operations such as cleaning, drilling, hoisting, and chipping. On the other hand, however, this section does not deal with the special problems created by using compressed air to convey materials nor the problems created when men work in compressed air as in tunnels and caissons. This section is not intended to apply to compressed air machinery and equipment used on transportation vehicles such as steam railroad cars, electric railway cars, and automotive equipment.

(2) *New and existing equipment.* (i) All new air receivers installed after the effective date of these regulations shall be constructed in accordance with the 1968 edition of the A.S.M.E. Boiler and Pressure Vessel Code Section VIII.

(ii) All safety valves used shall be constructed, installed, and maintained in accordance with the A.S.M.E. Boiler and Pressure Vessel Code, Section VIII Edition 1968.

(b) *Installation and equipment requirements*—(1) *Installation.* Air receivers shall be so installed that all drains, handholes, and manholes therein are easily accessible. Under no circumstances shall an air receiver be buried underground or located in an inaccessible place.

(2) *Drains and traps.* A drain pipe and valve shall be installed at the lowest point of every air receiver to provide for the removal of accumulated oil and water. Adequate automatic traps may be installed in addition to drain valves. The drain valve on the air receiver shall be opened and the receiver completely drained frequently and at such intervals as to prevent the accumulation of excessive amounts of liquid in the receiver.

(3) *Gages and valves.* (i) Every air receiver shall be equipped with an indicating pressure gage (so located as to be readily visible) and with one or more spring-loaded safety valves. The total relieving capacity of such safety valves shall be such as to prevent pressure in the receiver from exceeding the maximum allowable working pressure of the receiver by more than 10 percent.

(ii) No valve of any type shall be placed between the air receiver and its safety valve or valves.

(iii) Safety appliances, such as safety valves, indicating devices and controlling devices, shall be constructed, located, and installed so that they cannot be readily rendered inoperative by any means, including the elements.

(iv) All safety valves shall be tested frequently and at regular intervals to determine whether they are in good operating condition.

§ 1926.307 Mechanical power-transmission apparatus.

(a) *General requirements.* (1) This section covers all types and shapes of power-transmission belts, except the following when operating at two hundred and fifty (250) feet per minute or less: (i) Flat belts 1 inch (2.54 cm) or less in width, (ii) flat belts 2 inches (5.08 cm) or less in width which are free from metal lacings or fasteners, (iii) round belts ½ inch (1.27 cm) or less in diameter; and (iv) single strand V-belts, the width of which is thirteen thirty-seconds (13/32) inch or less.

(2) Vertical and inclined belts (paragraphs (e) (3) and (4) of this section) if not more than 2½ inches (6.35 cm) wide and running at a speed of less than one thousand (1,000) feet per minute, and if free from metal lacings or fastenings may be guarded with a nip-point belt and pulley guard.

(3) For the Textile Industry, because of the presence of excessive deposits of lint, which constitute a serious fire hazard, the sides and face sections only of nip-point belt and pulley guards are required, provided the guard shall extend at least 6 inches (15.24 cm) beyond the rim of the pulley on the in-running and off-running sides of the belt and at least 2 inches (5.08 cm) away from the rim and face of the pulley in all other directions.

(4) This section covers the principal features with which power transmission safeguards shall comply.

(b) *Prime-mover guards*—(1) *Flywheels.* Flywheels located so that any part is 7 feet (2.128 m) or less above floor or platform shall be guarded in accordance with the requirements of this subparagraph:

(i) With an enclosure of sheet, perforated, or expanded metal, or woven wire;

(ii) With guard rails placed not less than 15 inches (38.1 cm) nor more than 20 inches (50.8 cm) from rim. When flywheel extends into pit or is within 12 inches (30.48 cm) of floor, a standard toeboard shall also be provided;

(iii) When the upper rim of flywheel protrudes through a working floor, it shall be entirely enclosed or surrounded by a guardrail and toeboard.

(iv) For flywheels with smooth rims 5 feet (1.52 m) or less in diameter, where the preceding methods cannot be applied, the following may be used: A disk attached to the flywheel in such manner as to cover the spokes of the wheel on the exposed side and present a smooth surface and edge, at the same time providing means for periodic inspection. An open space, not exceeding 4 inches (10.16 cm) in width, may be left between the outside edge of the disk and the rim of the wheel if desired, to facilitate turning the wheel over. Where a disk is used, the keys or other dangerous projections not covered by disk shall be cut off or covered. This subdivision does not apply to flywheels with solid web centers.

(v) Adjustable guard to be used for starting engine or for running adjustment may be provided at the flywheel of gas or oil engines. A slot opening for jack bar will be permitted.

(vi) Wherever flywheels are above working areas, guards shall be installed having sufficient strength to hold the weight of the flywheel in the event of a shaft or wheel mounting failure.

(2) *Cranks and connecting rods.* Cranks and connecting rods, when exposed to contact, shall be guarded in accordance with paragraphs (m) and (n) of this section, or by a guardrail as described in paragraph (o)(5) of this section.

(3) *Tail rods or extension piston rods.* Tail rods or extension piston rods shall be guarded in accordance with

paragraphs (m) and (o) of this section, or by a guardrail on sides and end, with a clearance of not less than 15 (38.1 cm) nor more than 20 inches (50.8 cm) when rod is fully extended.

(c) *Shafting*—(1) *Installation.* (i) Each continuous line of shafting shall be secured in position against excessive endwise movement.

(ii) Inclined and vertical shafts, particularly inclined idler shafts, shall be securely held in position against endwise thrust.

(2) *Guarding horizontal shafting.* (i) All exposed parts of horizontal shafting 7 feet (2.128 m) or less from floor or working platform, excepting runways used exclusively for oiling, or running adjustments, shall be protected by a stationary casing enclosing shafting completely or by a trough enclosing sides and top or sides and bottom of shafting as location requires.

(ii) Shafting under bench machines shall be enclosed by a stationary casing, or by a trough at sides and top or sides and bottom, as location requires. The sides of the trough shall come within at least 6 inches (15.24 cm) of the underside of table, or if shafting is located near floor within 6 inches (15.24 cm) of floor. In every case the sides of trough shall extend at least 2 inches (5.08 cm) beyond the shafting or protuberance.

(3) *Guarding vertical and inclined shafting.* Vertical and inclined shafting 7 feet (2.128 m) or less from floor or working platform, excepting maintenance runways, shall be enclosed with a stationary casing in accordance with requirements of paragraphs (m) and (o) of this section.

(4) *Projecting shaft ends.* (i) Projecting shaft ends shall present a smooth edge and end and shall not project more than one-half the diameter of the shaft unless guarded by nonrotating caps or safety sleeves.

(ii) Unused keyways shall be filled up or covered.

(5) *Power-transmission apparatus located in basements.* All mechanical power transmission apparatus located in basements, towers, and rooms used exclusively for power transmission equipment shall be guarded in accordance with this section, except that the requirements for safeguarding belts, pulleys, and shafting need not be complied with when the following requirements are met:

(i) The basement, tower, or room occupied by transmission equipment is locked against unauthorized entrance.

(ii) The vertical clearance in passageways between the floor and power transmission beams, ceiling, or any other objects, is not less than 5 ft. 6 in. (1.672 m).

(iii) The intensity of illumination conforms to the requirements of ANSI A11.1–1965 (R–1970).

(iv) [Reserved]

(v) The route followed by the oiler is protected in such manner as to prevent accident.

(d) *Pulleys*—(1) *Guarding.* Pulleys, any parts of which are 7 feet (2.128 m) or less from the floor or working platform, shall be guarded in accordance with the standards specified in paragraphs (m) and (o) of this section. Pulleys serving as balance wheels (*e.g.*, punch presses) on which the point of contact between belt and pulley is more than 6 ft. 6 in. (1.976 m) from the floor or platform may be guarded with a disk covering the spokes.

(2) *Location of pulleys.* (i) Unless the distance to the nearest fixed pulley, clutch, or hanger exceeds the width of the belt used, a guide shall be provided to prevent the belt from leaving the pulley on the side where insufficient clearance exists.

(ii) [Reserved]

(3) *Broken pulleys.* Pulleys with cracks, or pieces broken out of rims, shall not be used.

(4) *Pulley speeds.* Pulleys intended to operate at rim speed in excess of manufacturers normal recommendations shall be specially designed and carefully balanced for the speed at which they are to operate.

(e) *Belt, rope, and chain drives*—(1) *Horizontal belts and ropes.* (i) Where both runs of horizontal belts are 7 feet (2.128 m) or less from the floor level, the guard shall extend to at least 15 inches (38.1 cm) above the belt or to a standard height (see Table O–12), except that where both runs of a horizontal belt are 42 inches (106.68 cm) or less from the floor, the belt shall be fully enclosed.

(ii) In powerplants or power-development rooms, a guardrail may be used in lieu of the guard required by paragraph (e)(1)(i) of this section.

(2) *Overhead horizontal belts.* (i) Overhead horizontal belts, with lower parts 7 feet (2.128 m) or less from the floor or platform, shall be guarded on sides and bottom in accordance with paragraph (o)(3) of this section.

(ii) Horizontal overhead belts more than 7 feet (2.128 m) above floor or platform shall be guarded for their entire length under the following conditions:

(a) If located over passageways or work places and traveling 1,800 feet or more per minute.

(b) If center to center distance between pulleys is 10 feet (3.04 m) or more.

(c) If belt is 8 inches (20.32 cm) or more in width.

(iii) Where the upper and lower runs of horizontal belts are so located that passage of persons between them would be possible, the passage shall be either:

(a) Completely barred by a guardrail or other barrier in accordance with paragraphs (m) and (o) of this section; or

(b) Where passage is regarded as necessary, there shall be a platform over the lower run guarded on either side by a railing completely filled in with wire mesh or other filler, or by a solid barrier. The upper run shall be so guarded as to prevent contact therewith either by the worker or by objects carried by him. In powerplants only the lower run of the belt need be guarded.

(iv) Overhead chain and link belt drives are governed by the same rules as overhead horizontal belts and shall be guarded in the same manner as belts.

(3) *Vertical and inclined belts.* (i) Vertical and inclined belts shall be enclosed by a guard conforming to standards in paragraphs (m) and (o) of this section.

(ii) All guards for inclined belts shall be arranged in such a manner that a minimum clearance of 7 feet (2.128 m) is maintained between belt and floor at any point outside of guard.

(4) *Vertical belts.* Vertical belts running over a lower pulley more than 7 feet (2.128 m) above floor or platform shall be guarded at the bottom in the same manner as horizontal overhead belts, if conditions are as stated in paragraphs (e)(2)(ii) *(a)* and *(c)* of this section.

(5) *Cone-pulley belts.* (i) The cone belt and pulley shall be equipped with a belt shifter so constructed as to adequately guard the nip point of the belt and pulley. If the frame of the belt shifter does not adequately guard the nip point of the belt and pulley, the nip point shall be further protected by means of a vertical guard placed in front of the pulley and extending at least to the top of the largest step of the cone.

(ii) If the belt is of the endless type or laced with rawhide laces, and a belt shifter is not desired, the belt will be considered guarded if the nip point of the belt and pulley is protected by a nip point guard located in front of the cone extending at least to the top of the largest step of the cone, and formed to show the contour of the cone in order to give the nip point of the belt and pulley the maximum protection.

(iii) If the cone is located less than 3 feet (0.912 m) from the floor or working platform, the cone pulley and belt shall be guarded to a height of 3 feet (0.912

m) regardless of whether the belt is endless or laced with rawhide.

(6) *Belt tighteners.* (i) Suspended counterbalanced tighteners and all parts thereof shall be of substantial construction and securely fastened; the bearings shall be securely capped. Means must be provided to prevent tightener from falling, in case the belt breaks.

(ii) Where suspended counterweights are used and not guarded by location, they shall be so encased as to prevent accident.

(f) *Gears, sprockets, and chains*—(1) *Gears.* Gears shall be guarded in accordance with one of the following methods:

(i) By a complete enclosure; or

(ii) By a standard guard as described in paragraph (o) of this section, at least 7 feet (2.128 m) high extending 6 inches (15.24 cm) above the mesh point of the gears; or

(iii) By a band guard covering the face of gear and having flanges extended inward beyond the root of the teeth on the exposed side or sides. Where any portion of the train of gears guarded by a band guard is less than 6 feet (1.824 m) from the floor a disk guard or a complete enclosure to the height of 6 feet (1.824 m) shall be required.

(2) *Hand-operated gears.* Paragraph (f)(1) of this section does not apply to hand-operated gears used only to adjust machine parts and which do not continue to move after hand power is removed. However, the guarding of these gears is highly recommended.

(3) *Sprockets and chains.* All sprocket wheels and chains shall be enclosed unless they are more than 7 feet (2.128 m) above the floor or platform. Where the drive extends over other machine or working areas, protection against falling shall be provided. This subparagraph does not apply to manually operated sprockets.

(4) *Openings for oiling.* When frequent oiling must be done, openings with hinged or sliding self-closing covers shall be provided. All points not readily accessible shall have oil feed tubes if lubricant is to be added while machinery is in motion.

(g) *Guarding friction drives.* The driving point of all friction drives when exposed to contact shall be guarded, all arm or spoke friction drives and all web friction drives with holes in the web shall be entirely enclosed, and all projecting belts on friction drives where exposed to contact shall be guarded.

(h) *Keys, setscrews, and other projections.* (1) All projecting keys, setscrews, and other projections in revolving parts shall be removed or made flush or guarded by metal cover. This subparagraph does not apply to keys or setscrews within gear or sprocket casings or other enclosures, nor to keys, setscrews, or oilcups in hubs of pulleys less than 20 inches (50.8 cm) in diameter where they are within the plane of the rim of the pulley.

(2) It is recommended, however, that no projecting setscrews or oilcups be used in any revolving pulley or part of machinery.

(i) *Collars and couplings*—(1) *Collars.* All revolving collars, including split collars, shall be cylindrical, and screws or bolts used in collars shall not project beyond the largest periphery of the collar.

(2) *Couplings.* Shaft couplings shall be so constructed as to present no hazard from bolts, nuts, setscrews, or revolving surfaces. Bolts, nuts, and setscrews will, however, be permitted where they are covered with safety sleeves or where they are used parallel with the shafting and are countersunk or else do not extend beyond the flange of the coupling.

(j) *Bearings and facilities for oiling.* All drip cups and pans shall be securely fastened.

(k) *Guarding of clutches, cutoff couplings, and clutch pulleys*—(1) *Guards.* Clutches, cutoff couplings, or clutch pulleys having projecting parts, where such clutches are located 7 feet (2.128 m) or less above the floor or working platform, shall be enclosed by a stationary guard constructed in accordance with this section. A "U" type guard is permissible.

(2) *Engine rooms.* In engine rooms a guardrail, preferably with toeboard, may be used instead of the guard required by paragraph (k)(1) of this section, provided such a room is occupied only by engine room attendants.

(l) *Belt shifters, clutches, shippers, poles, perches, and fasteners*—(1) *Belt shifters.* (i) Tight and loose pulleys on all new installations made on or after August 31, 1971, shall be equipped with a permanent belt shifter provided with mechanical means to prevent belt from creeping from loose to tight pulley. It is recommended that old installations be changed to conform to this rule.

(ii) Belt shifter and clutch handles shall be rounded and be located as far as possible from danger of accidental contact, but within easy reach of the operator. Where belt shifters are not directly located over a machine or bench, the handles shall be cut off 6 ft. 6 in. (1.976 m) above floor level.

(2) *Belt shippers and shipper poles.* The use of belt poles as substitutes for mechanical shifters is not recommended.

(3) *Belt perches.* Where loose pulleys or idlers are not practicable, belt perches in form of brackets, rollers, etc., shall be used to keep idle belts away from the shafts.

(4) *Belt fasteners.* Belts which of necessity must be shifted by hand and belts within 7 feet (2.128 m) of the floor or working platform which are not guarded in accordance with this section shall not be fastened with metal in any case, nor with any other fastening which by construction or wear will constitute an accident hazard.

(m) *Standard guards—general requirements*—(1) *Materials.* (i) Standard conditions shall be secured by the use of the following materials. Expanded metal, perforated or solid sheet metal, wire mesh on a frame of angle iron, or iron pipe securely fastened to floor or to frame of machine.

(ii) All metal should be free from burrs and sharp edges.

(2) *Methods of manufacture.* (i) Expanded metal, sheet or perforated metal, and wire mesh shall be securely fastened to frame.

(n) [Reserved]

(o) *Approved materials*—(1) *Minimum requirements.* The materials and dimensions specified in this paragraph shall apply to all guards, except horizontal overhead belts, rope, cable, or chain guards more than 7 feet (2.128 m) above floor, or platform.

(i) [Reserved]

(a) All guards shall be rigidly braced every 3 feet (0.912 m) or fractional part of their height to some fixed part of machinery or building structure. Where guard is exposed to contact with moving equipment additional strength may be necessary.

(2) *Wood guards.* (i) Wood guards may be used in the woodworking and chemical industries, in industries where the presence of fumes or where manufacturing conditions would cause the rapid deterioration of metal guards; also in construction work and in locations outdoors where extreme cold or extreme heat make metal guards and railings undesirable. In all other industries, wood guards shall not be used.

(3) *Guards for horizontal overhead belts.* (i) Guards for horizontal overhead belts shall run the entire length of the belt and follow the line of the pulley to the ceiling or be carried to the nearest wall, thus enclosing the belt effectively. Where belts are so located as to make it impracticable to carry the guard to wall or ceiling, construction of guard shall be such as to enclose completely the top and bottom runs of belt and the face of pulleys.

(ii) [Reserved]

(iii) Suitable reinforcement shall be provided for the ceiling rafters or overhead floor beams, where such is necessary, to sustain safely the weight and stress likely to be imposed by the guard. The interior surface of all guards, by which is meant the surface of the guard with which a belt will come in contact, shall be smooth and free from all projections of any character, except where construction demands it; protruding shallow roundhead rivets may be used. Overhead belt guards shall be at least one-quarter wider than belt which they protect, except that this clearance need not in any case exceed 6 inches (15.24 cm) on each side. Overhead rope drive and block and roller-chain-drive guards shall be not less than 6 inches (15.24 cm) wider than the drive on each side. In overhead silent chain-drive guards where the chain is held from lateral displacement on the sprockets, the side clearances required on drives of 20 inch (50.8 cm) centers or under shall be not less than ¼ inch (0.635 cm) from the nearest moving chain part, and on drives of over 20 inch (50.8 cm) centers a minimum of ½ inch (1.27 cm) from the nearest moving chain part.

(4) *Guards for horizontal overhead rope and chain drives.* Overhead-rope and chain-drive guard construction shall conform to the rules for overhead-belt guard.

(5) *Guardrails and toeboards.* (i) Guardrail shall be 42 inches (106.68 cm) in height, with midrail between top rail and floor.

(ii) Posts shall be not more than 8 feet (2.432 m) apart; they are to be permanent and substantial, smooth, and free from protruding nails, bolts, and splinters. If made of pipe, the post shall be 1¼ inches (3.175 cm) inside diameter, or larger. If made of metal shapes or bars, their section shall be equal in strength to that of 1½ (3.81 cm) by 1½ (3.81 cm) by 3/16 inch angle iron. If made of wood, the posts shall be two by four (2 × 4) inches or larger. The upper rail shall be two by four (2 × 4) inches, or two one by four (1 × 4) strips, one at the top and one at the side of posts. The midrail may be one by four (1 × 4) inches or more. Where panels are fitted with expanded metal or wire mesh as noted in Table O–12 the middle rails may be omitted. Where guard is exposed to contact with moving equipment, additional strength may be necessary.

(iii) Toeboards shall be 4 inches (10.16 cm) or more in height, of wood, metal, or of metal grill not exceeding 1 inch (2.54 cm) mesh.

(p) *Care of equipment*—(1) *General.* All power-transmission equipment shall be inspected at intervals not exceeding 60 days and be kept in good working condition at all times.

(2) *Shafting.* (i) Shafting shall be kept in alignment, free from rust and excess oil or grease.

(ii) Where explosives, explosive dusts, flammable vapors or flammable liquids exist, the hazard of static sparks from shafting shall be carefully considered.

(3) *Bearings.* Bearings shall be kept in alignment and properly adjusted.

(4) *Hangers.* Hangers shall be inspected to make certain that all supporting bolts and screws are tight and that supports of hanger boxes are adjusted properly.

(5) *Pulleys.* (i) Pulleys shall be kept in proper alignment to prevent belts from running off.

(6) *Care of belts.*

(i) [Reserved]

(ii) Inspection shall be made of belts, lacings, and fasteners and such equipment kept in good repair.

(7) *Lubrication.* The regular oilers shall wear tight-fitting clothing. Machinery shall be oiled when not in motion, wherever possible.

Subpart J—Welding and Cutting

32. In § 1926.350, new paragraphs (a)(10) through (12) are added to read as follows:

§ 1926.350 Gas welding and cutting.

(a) *Transporting, moving, and storing compressed gas cylinders.*

* * * * *

(10) Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet (6.1 m) or by a noncombustible barrier at least 5 feet (1.5 m) high having a fire-resistance rating of at least one-half hour.

(11) Inside of buildings, cylinders shall be stored in a well-protected, well-ventilated, dry location, at least 20 feet (6.1 m) from highly combustible materials such as oil or excelsior. Cylinders should be stored in definitely assigned places away from elevators, stairs, or gangways. Assigned storage places shall be located where cylinders will not be knocked over or damaged by passing or falling objects, or subject to tampering by unauthorized persons. Cylinders shall not be kept in unventilated enclosures such as lockers and cupboards.

(12) The in-plant handling, storage, and utilization of all compressed gases in cylinders, portable tanks, rail tankcars, or motor vehicle cargo tanks shall be in accordance with Compressed Gas Association Pamphlet P–1–1965.

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33. In § 1926.353, new paragraph (b)(3) is added to read as follows:

§ 1926.353 Ventilation and protection in welding, cutting, and heating.

* * * * *

(b) *Welding, cutting, and heating in confined spaces.*

* * * * *

(3) *Lifelines.* Where a welder must enter a confined space through a manhole or other small opening, means shall be provided for quickly removing him in case of emergency. When safety belts and lifelines are used for this purpose they shall be so attached to the welder's body that his body cannot be jammed in a small exit opening. An attendant with a pre-planned rescue procedure shall be stationed outside to observe the welder at all times and be capable of putting rescue operations into effect.

Subpart K—Electrical

Safety-Related Work Practices

34. In § 1926.416, new paragraphs (a)(4), (f), and (g) are added to read as follows:

§ 1926.416 General requirements.

(a) *Protection of employees—*

* * * * *

(4) *Work on energized equipment.* Only qualified persons may work on electric circuit parts or equipment that have not been deenergized under the procedures of § 1926.417(d) of this section. Such persons shall be capable of working safely on energized circuits and shall be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.

* * * * *

(f)(1) *Interlocks.* Only a qualified person following the requirements of paragraph (c) of this section may defeat an electrical safety interlock, and then only temporarily while he or she is working on the equipment. The interlock system shall be returned to its operable condition when this work is completed.

(2) *Portable electric equipment—Handling.* Portable equipment shall be handled in a manner which will not cause damage. Flexible electric cords connected to equipment may not be used for raising or lowering the equipment. Flexible cords may not be fastened with staples or otherwise hung in such a fashion as could damage the outer jacket or insulation.

(3) *Visual inspection.* When an attachment plug is to be connected to a receptacle (including an on a cord set),

the relationship of the plug and receptacle contacts shall first be checked to ensure that they are of proper mating configurations.

(4) *Connecting attachment plugs.* (i) Employees' hands may not be wet when plugging and unplugging flexible cords and cord and plug connected equipment, if energized equipment is involved.

(ii) Energized plug and receptacle connections may be handled only with insulating protective equipment if the condition of the connection could provide a conducting path to the employee's hand (if, for example, a cord connector is wet from being immersed in water).

(iii) Locking type connectors shall be properly secured after connection.

(5) *Routine opening and closing of electric power and lighting circuits.* Load rated switches, circuit breakers, or other devices specifically designed as disconnecting means shall be used for the opening, reversing, or closing of circuits under load conditions. Cable connectors not of the load break type, fuses, terminal lugs, and cable splice connections may not be used for such purposes, except in an emergency.

(6) *Reclosing circuits after protective device operation.* After a circuit is deenergized by a circuit protective device, the circuit protective device, the circuit may not be manually reenergized until it has been determined that the equipment and circuit can be safely energized. The repetitive manual reclosing of circuit breakers or reenergizing circuits through replaced fuses is prohibited.

Note: When it can be determined from the design of the circuit and the overcurrent devices involved that the automatic operation of a device was caused by an overload rather than a fault condition, no examination of the circuit or connected equipment is needed before the circuit is reenergized.

(7) *Test instruments and equipment—Use.* Only qualified persons may perform testing work on electric circuits or equipment.

(8) *Visual inspection.* Test instruments and equipment and all associated test leads, cables, power cords, probes, and connectors shall be visually inspected for external defects and damage before the equipment is used. If there is a defect or evidence of damage that might expose an employee to injury, the defective or damaged item shall be removed from service, and no employee may use it until repairs and tests necessary to render the equipment safe have been made.

(9) *Rating of equipment.* Test instruments and equipment and their accessories shall be rated for the circuits and equipment to which they will be connected and shall be designed for the environment in which they will be used.

(10) *Occasional use of flammable or ignitable materials.* Where flammable materials are present only occasionally, electric equipment capable of igniting them shall not be used, unless measures are taken to prevent hazardous conditions from developing. Such materials include, but are not limited to: flammable gases, vapors, or liquids; combustible dust; and ignitible fibers or flyings.

(g) *Use of equipment.* (1) *Work on energized equipment.* Only qualified persons may work on electric circuit parts or equipment that have not been deenergized under the procedures of paragraph (b) of this section. Such persons shall be capable of working safely on energized circuits and shall be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools.

(2) *Overhead lines.* If work is to be performed near overhead lines, the lines shall be deenergized and grounded, or other protective measures shall be provided before work is started. If the lines are to be deenergized, arrangements shall be made with the person or organization that operates or controls the electric circuits involved to deenergize and ground them. If protective measures, such as guarding, isolating, or insulating, are provided, these precautions shall prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools, or equipment.

(i) *Unqualified persons.* (A) When an unqualified person is working in an elevated position near overhead lines, the location shall be such that the person and the longest conductive object he or she may contact cannot come closer to any unguarded, energized overhead line than the following distances:

(*1*) For voltages to ground 50kV or below—10 feet (305 cm);

(*2*) For voltages to ground over 50kV—10 feet (305 cm) plus 4 inches (10 cm) for every 10kV over 50kV.

(B) When an unqualified person is working on the ground in the vicinity of overhead lines, the person may not bring any conductive object closer to unguarded, energized overhead lines than the distances given in paragraph (g)(2)(i)(A) of this section.

Note: For voltages normally encountered with overhead power line, objects which do not have an insulating rating for the voltage involved are considered to be conductive.

(ii) *Qualified persons.* When a qualified person is working in the vicinity of overhead lines, whether in an elevated position or on the ground, the person may not approach or take any conductive object without an approved insulating handle closer to exposed energized parts than shown in Table K-2 unless:

(A) The person is insulated from the energized part (gloves, with sleeves if necessary, rated for the voltage involved are considered to be insulation of the person from the energized part on which work is performed), or

(B) The energized part is insulated both from all other conductive objects at a different potential and from the person, or

(C) The person is insulated from all conductive objects at a potential different from that of the energized part.

TABLE K-2—APPROACH DISTANCES FOR QUALIFIED EMPLOYEES—ALTERNATING CURRENT

Voltage range (phase to phase)	Minimum approach distance
300V and less	Avoid contact
Over 300V, not over 750V.	1 ft. 0 in. (30.5 cm)
Over 750V, not over 2kV.	1 ft. 6 in. (46 cm).
Over 2kV, not over 15kV.	2 ft. 0 in. (61 cm).
Over 15kV, not over 37kV.	3 ft. 0 in. (91 cm).
Over 37kV, not over 87.5kV.	3 ft. 6 in. (107 cm).
Over 87.5kV, not over 121kV.	4 ft. 0 in. (122 cm).
Over 121kV, not over 140kV.	4 ft. 6 in. (137 cm).

(iii) *Vehicular and mechanical equipment.* (A) Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 ft. (305 cm) is maintained. If the voltage is higher than 50kV, the clearance shall be increased 4 in. (10 cm) for every 10kV over that voltage. However, under any of the following conditions, the clearance may be reduced:

(*1*) If the vehicle is in transit with its structure lowered, the clearance may be reduced to 4 ft. (122 cm). If the voltage is higher than 50kV, the clearance shall be increased 4 in. (10 cm) for every 10 kV over that voltage.

(*2*) If insulating barriers are installed to prevent contact with the lines, and if the barriers are rated for the voltage of the line being guarded and are not a part

of or an attachment to the the vehicle or its raised structure, the clearance may be reduced to a distance within the designed working dimensions of the insulating barrier.

(3) If the equipment is an aerial lift insulated for the voltage involved, and if the work is performed by a qualified person, the clearance (between the uninsulated portion of the aerial lift and the power line) may be reduced to the distance given in Table K-2.

(B) Employees standing on the ground may not contact the vehicle or mechanical equipment or any of the structure that provides a conductive path to employees on the ground) can come closer to the line than permitted in paragraph (g)(2)(iii) of this section.

(C) If any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding may not stand at the grounding location whenever there is a possibility of overhead line contact. Additional precautions, such as the use of barricades or insulation, shall be taken to protect employees from hazardous ground potentials, depending on earth resistivity and fault currents, which can develop within the first few feet or more outward from the grounding point.

(3) *Illumination.* (i) Employees may not enter spaces containing exposed energized parts, unless illumination is provided that enables the employees to perform the work safely.

(ii) Where lack of illumination or an obstruction precludes observation of the work to be performed, employees may not perform tasks near exposed energized parts. Employees may not reach blindly into areas which may contain energized parts.

(4) *Confined or enclosed work spaces.* When an employee works in a confined or enclosed space (such as a manhole or vault) that contains exposed energized parts, the employer shall provide, and the employee shall use, protective shields, protective barriers, or insulating materials as necessary to avoid inadvertent contact with these parts. Doors, hinged panels, and the like shall be secured to prevent their swinging into an employee and causing the employee to contact exposed energized parts.

(5) *Conductive materials and equipment.* Conductive materials and equipment that are in contact with any part of an employee's body shall be handled in a manner that will prevent them from contacting exposed energized conductors or circuit parts. If an employee must handle long dimensional conductive objects (such as ducts and pipes) in areas with exposed live parts, the employer shall institute work practices (such as the use of insulation, guarding, and material handling techniques) which will minimize the hazard.

(6) *Portable ladders.* Portable ladders shall have nonconductive siderails if they are used where the employee or the ladder could contact exposed energized parts.

(7) *Conductive apparel.* Conductive articles of jewelry and clothing (such a watch bands, bracelets, rings, key chains, necklaces, metalized aprons, cloth with conductive thread, or metal headgear) may not be worn if they might contact exposed energized parts. However, such articles may be worn if they are rendered nonconductive by covering, wrapping, or other insulating means.

(8) *Housekeeping duties.* Where live parts present an electrical contact hazard, employees may not perform housekeeping duties at such close distances to the parts that there is a possibility of contact, unless adequate safeguards (such as insulating equipment or barriers) are provided. Electrically conductive cleaning materials (including conductive solids such as steel wool, metalized cloth, and silicon carbide, as well as conductive liquid solutions) may not be used in proximity to energized parts unless procedures are followed which will prevent electrical contact.

35. In § 1926.417, a new paragraph (d) is added to read as follows:

§ 1926.417 Lockout and tagging of circuits.

* * * * *

(d) *Lockout and tagging.* While any employee is exposed to contact with parts of fixed electric equipment or circuits which have been deenergized, the circuits energizing the parts shall be locked out or tagged or both in accordance with the requirements of this paragraph. The requirements shall be followed in the order in which they are presented (*i.e.*, paragraph (d)(1) first, then paragraph (d)(2), etc.).

Note 1: As used in this section, fixed equipment refers to equipment fastened in place or connected by permanent wiring methods.

Note 2: Lockout and tagging procedures that comply with paragraphs (c) through (f) of 1910.147 will also be deemed to comply with paragraph (d) of this section provided that:

(1) The procedures address the electrical safety hazards covered by this subpart; and

(2) The procedures also incorporate the requirements of paragraphs (d)(3)(iv) and (d)(4)(ii) of this section.

(1) *Procedures.* The employer shall maintain a written copy of the procedures outlined in paragraph (d) and shall make it available for inspection by employees and by the Assistant Secretary of Labor and his or her authorized representatives.

Note: The written procedures may be in the form of a copy of paragraph (b) of this section.

(2) *Deenergizing equipment.* (i) Safe procedures for deenergizing circuits and equipment shall be determined before circuits or equipment are deenergized.

(ii) The circuits and equipment to be worked on shall be disconnected from all electric energy sources. Control circuit devices, such as push buttons, selector switches, and interlocks, may not be used as the sole means for deenergizing circuits or equipment. Interlocks for electric equipment may not be used as a substitute for lockout and tagging procedures.

(iii) Stored electric energy which might endanger personnel shall be released. Capacitors shall be discharged and high capacitance elements shall be short-circuited and grounded, if the stored electric energy might endanger personnel.

Note: If the capacitors or associated equipment are handled in meeting this requirement, they shall be treated as energized.

(iv) Stored non-electrical energy in devices that could reenergize electric circuit parts shall be blocked or relieved to the extent that the circuit parts could not be accidentally energized by the device.

(3) *Application of locks and tags.* (i) A lock and a tag shall be placed on each disconnecting means used to deenergize circuits and equipment on which work is to be performed, except as provided in paragraphs (d)(3) (iii) and (v) of this section. The lock shall be attached so as to prevent persons from operating the disconnecting means unless they resort to undue force or the use of tools.

(ii) Each tag shall contain a statement prohibiting unauthorized operation of the disconnecting means and removal of the tag.

(iii) If a lock cannot be applied, or if the employer can demonstrate that tagging procedures will provide a level of safety equivalent to that obtained by the use of a lock, a tag may be used without a lock.

(iv) A tag used without a lock, as permitted by paragraph (d)(3)(iii) of this section, shall be supplemented by at least one additional safety measure that provides a level of safety equivalent to that obtained by use of a lock. Examples of additional safety measures include

the removal of an isolating circuit element, blocking of a controlling switch, or opening of an extra disconnecting device.

(v) A lock may be placed without a tag only under the following conditions:

(A) Only one circuit or piece of equipment is deenergized, and

(B) The lockout period does not extend beyond the work shift, and

(C) Employees exposed to the hazards associated with reenergizing the circuit or equipment are familiar with this procedure.

(4) *Verification of deenergized condition.* The requirements of this paragraph shall be met before any circuits or equipment can be considered and worked as deenergized.

(i) A qualified person shall operate the equipment operating controls or otherwise verify that the equipment cannot be restarted.

(ii) A qualified person shall use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and shall verify that the circuit elements and equipment parts are deenergized. The test shall also determine if any energized condition exists as a result of inadvertently induced voltage or unrelated voltage backfeed even though specific parts of the circuit have been deenergized and presumed to be safe. If the circuit to be tested is over 600 volts, nominal, the test equipment shall be checked for proper operation immediately after this test.

(v) *Reenergizing equipment.* These requirements shall be met, in the order given, before circuits or equipment are reenergized, even temporarily.

(i) A qualified person shall conduct tests and visual inspections, as necessary, to verify that all tools, electrical jumpers, shorts, grounds, and other such devices have been removed, so that the circuits and equipment can be safely energized.

(ii) Employees exposed to the hazards associated with reenergizing the circuit or equipment shall be warned to stay clear of circuits and equipment.

(iii) Each lock and tag shall be removed by the employee who applied it or under his or her direct supervision. However, if this employee is absent from the workplace, then the lock or tag may be removed by a qualified person designated to perform this task provided that:

(A) The employer ensures that the employee who applied the lock or tag is not available at the workplace, and

(B) The employer ensures that the employee is aware that the lock or tag has been removed before he or she resumes work at that workplace.

(iv) There shall be a visual determination that all employees are clear of the circuits and equipment.

Subpart L—Scaffolding

36. In § 1926.451, new paragraphs (a) (22) through (24) are added to read as follows:

§ 1926.451 Scaffolding.

(a) *General requirements.*

* * * * *

(22) Materials being hoisted onto a scaffold shall have a tag line.

(23) Employees shall not work on scaffolds during storms or high winds.

(24) Tools, materials, and debris shall not be allowed to accumulate in quantities to cause a hazard.

* * * * *

37. A new § 1926.453 is added to read as follows:

§ 1926.453 Manually propelled mobile ladder stands and scaffolds (towers).

(a) *General requirements*—(1) *Application.* This section is intended to prescribe rules and requirements for the design, construction, and use of mobile work platforms (including ladder stands but not including aerial ladders) and rolling (mobile) scaffolds (towers). This standard is promulgated to aid in providing for the safety of life, limb, and property, by establishing minimum standards for structural design requirements and for the use of mobile work platforms and towers.

(2) *Working loads.* (i) Work platforms and scaffolds shall be capable of carrying the design load under varying circumstances depending upon the conditions of use. Therefore, all parts and appurtenances necessary for their safe and efficient utilization must be integral parts of the design.

(ii) Specific design and construction requirements are not a part of this section because of the wide variety of materials and design possibilities. However, the design shall be such as to produce a mobile ladder stand or scaffold that will safely sustain the specified loads. The material selected shall be of sufficient strength to meet the test requirements and shall be protected against corrosion or deterioration.

(a) The design working load of ladder stands shall be calculated on the basis of one or more 200-pound (90.6 kg) persons together with 50 pounds (22.65 kg) of equipment each.

(b) The design load of all scaffolds shall be calculated on the basis of:

Light—Designed and constructed to carry a working load of 25 pounds per square foot (1.05 kg m^2).

Medium—Designed and constructed to carry a working load of 50 pounds per square foot (2.1 kg m^2).

Heavy—Designed and constructed to carry a working load of 75 pounds per square foot (3.15 kg m^2).

All ladder stands and scaffolds shall be capable of supporting at least four times the design working load.

(iii) The materials used in mobile ladder stands and scaffolds shall be of standard manufacture and conform to standard specifications of strength, dimensions, and weights, and shall be selected to safely support the design working load.

(iv) Nails, bolts, or other fasteners used in the construction of ladders, scaffolds, and towers shall be of adequate size and in sufficient numbers at each connection to develop the designed strength of the unit. Nails shall be driven full length. (All nails should be immediately withdrawn from dismantled lumber.)

(v) All exposed surfaces shall be free from sharp edges, burrs or other safety hazards.

(3) *Work levels.* (i) The maximum work level height shall not exceed four (4) times the minimum or least base dimensions of any mobile ladder stand or scaffold. Where the basic mobile unit does not meet this requirement, suitable outrigger frames shall be employed to achieve this least base dimension, or provisions shall be made to guy or brace the unit against tipping.

(ii) The minimum platform width for any work level shall not be less than 20 inches (50.8 cm) for mobile scaffolds (towers). Ladder stands shall have a minimum step width of 16 inches (40.64 cm).

(iii) The supporting structure for the work level shall be rigidly braced, using adequate cross bracing or diagonal bracing with rigid platforms at each work level.

(iv) The steps of ladder stands shall be fabricated from slip resistant treads.

(v) The work level platform of scaffolds (towers) shall be of wood, aluminum, or plywood planking, steel or expanded metal, for the full width of the scaffold, except for necessary openings. Work platforms shall be secured in place. All planking shall be 2-inch (5.08 cm) (nominal) scaffold grade minimum 1,500 *f.* (stress grade) construction grade lumber or equivalent.

(vi) All scaffold work levels 10 feet (3.04 m) or higher above the ground or floor shall have a standard (4-inch (10.16 cm) nominal) toeboard.

(vii) All work levels 10 feet (3.04 m) or higher above the ground or floor shall have a guardrail of 2- by 4-inch nominal

or the equivalent installed no less than 36 inches (0.912 m) or more than 42 inches (106.68 cm) high, with a mid-rail, when required, of 1- by 4-inch nominal lumber or equivalent.

(viii) A climbing ladder or stairway shall be provided for proper access and egress, and shall be affixed or built into the scaffold and so located that its use will not have a tendency to tip the scaffold. A landing platform shall be provided at intervals not to exceed 30 feet (9.12 m).

(4) *Wheels or casters.* (i) Wheels or casters shall be properly designed for strength and dimensions to support four (4) times the design working load.

(ii) All scaffold casters shall be provided with a positive wheel and/or swivel lock to prevent movement. Ladder stands shall have at least two (2) of the four (4) casters and shall be of the swivel type.

(iii) Where leveling of the elevated work platform is required, screw jacks or other suitable means for adjusting the height shall be provided in the base section of each mobile unit.

(b) *Mobile tubular welded sectional folding scaffolds*—(1) *General.* Units including sectional stairway and sectional ladder scaffolds shall be designed to comply with the requirements of paragraph (a) of this section.

(2) *Stairway.* An integral stairway and work platform shall be incorporated into the structure of each sectional folding stairway scaffold.

(3) *Bracing.* An integral set of pivoting and hinged folding diagonal and horizontal braces and a detachable work platform shall be incorporated into the structure of each sectional folding ladder scaffold.

(4) *Sectional folding stairway scaffolds.* Sectional folding stairway scaffolds shall be designed as medium duty scaffolds except for high clearance. These special base sections shall be designed as light duty scaffolds. When upper sectional folding stairway scaffolds are used with a special high clearance base, the load capacity of the entire scaffold shall be reduced accordingly. The width of a sectional folding stairway scaffold shall not exceed 4½ feet (1.368 m). The maximum length of a sectional folding stairway scaffold shall not exceed 6 feet (1.824 m).

(5) *Sectional folding ladder scaffolds.* Sectional folding ladder scaffolds shall be designed as light duty scaffolds including special base (open end) sections which are designed for high clearance. For certain special applications the 6'- (1.824 m) folding ladder scaffolds, except for special high clearance base sections, shall be designed for use as medium duty scaffolds. The width of a sectional folding ladder scaffold shall not exceed 4½ feet (1.368 m). The maximum length of a sectional folding ladder scaffold shall not exceed 6 feet 6 inches (1.976 m) for a 6'- (1.824 m) long unit, 8 feet 6 inches (2.584 m) for an 8'- (2.432 m) unit or 10 feet 6 inches (3.192 m) for a 10'- (3.04 m) long unit.

(6) *End frames.* The end frames of sectional ladder and stairway scaffolds shall be designed so that the horizontal bearers provide supports for multiple planking levels.

(7) *Erection.* Only the manufacturer of the scaffold or his qualified designated agent shall be permitted to erect or supervise the erection of scaffolds exceeding 50 feet (15.2 m) in height above the base, unless such structure is approved in writing by a licensed professional engineer, or erected in accordance with instructions furnished by the manufacturer.

Subpart N—Cranes, Derricks, Hoists, Elevators, and Conveyors

38. In § 1926.550, a new paragraph (a)(19) is added to read as follows:

§ 1926.550 Cranes and derricks.

(a) *General requirements.*

* * * * *

(19) All employees shall be kept clear of loads about to be lifted and of suspended loads.

* * * * *

Subpart O—Motor Vehicles, Mechanized Equipment, and Marine Operations

39. In § 1926.600, new paragraph (a)(7) is added to read as follows:

§ 1926.600 Equipment.

(a) *General requirements.*

* * * * *

(7) *Rolling railroad cars.* Derail and/or bumper blocks shall be provided on spur railroad tracks where a rolling car could contact other cars being worked, enter a building, work or traffic area.

* * * * *

40. In § 1926.602, new paragraphs (c)(1) (vii) and (vii) are added to read as follows:

§ 1926.602 Material handling equipmment.

* * * * *

(c) *Lifting and hauling (other than equipment covered under subpart N of this part).* (1) * * *

* * * * *

(vii) Unauthorized personnel shall not be permitted to ride on powered industrial trucks. A safe place to ride shall be provided where riding of trucks is authorized.

(viii) Whenever a truck is equipped with vertical only, or vertical and horizontal controls elevatable with the lifting carriage or forks for lifting personnel, the following additional precautions shall be taken for the protection of personnel being elevated.

(A) Use of a safety platform firmly secured to the lifting carriage and/or forks.

(B) Means shall be provided whereby personnel on the platform can shut off power to the truck.

(C) Such protection from falling objects as indicated necessary by the operating conditions shall be provided.

Subpart U—Blasting and Use of Explosives

41. In § 1926.900, new paragraphs (s) and (t) are added to read as follows:

§ 1926.900 General provisions.

* * * * *

(s) Buildings used for the mixing of blasting agents shall conform to the requirements of this section.

(1) Buildings shall be of noncombustible construction or sheet metal on wood studs.

(2) Floors in a mixing plant shall be of concrete or of other nonabsorbent materials.

(3) All fuel oil storage facilities shall be separated from the mixing plant and located in such a manner that in case of tank rupture, the oil will drain away from the mixing plant building.

(4) The building shall be well ventilated.

(5) Heating units which do not depend on combustion processes, when properly designed and located, may be used in the building. All direct sources of heat shall be provided exclusively from units located outside the mixing building.

(6) All internal-combustion engines used for electric power generation shall be located outside the mixing plant building, or shall be properly ventilated and isolated by a firewall. The exhaust systems on all such engines shall be located so any spark emission cannot be a hazard to any materials in or adjacent to the plant.

(t) Buildings used for the mixing of water gels shall conform to the requirements of this subdivision.

(1) Buildings shall be of noncombustible construcuon or sheet metal on wood studs.

(2) Floors in a mixing plant shall be of concrete or of other nonabsorbent materials.

(3) Where fuel oil is used all fuel oil storage facilities shall be separated from the mixing plant and located in such a manner that in case of tank rupture, the oil will drain away from the mixing plant building.

(4) The building shall be well ventilated.

(5) Heating units that do not depend on combustion processes, when properly designed and located, may be used in the building. All direct sources of heat shall be provided exclusively from units located outside of the mixing building.

(6) All internal-combustion engines used for electric power generation shall be located outside the mixing plant building, or shall be properly ventilated and isolated by a firewall. The exhaust systems on all such engines shall be located so any spark emission cannot be a hazard to any materials in or adjacent to the plant.

42. In § 1926.905, new paragraph (u) is added to read as follows:

§ 1926.905 Loading of explosives or blasting agents.

* * * * *

(u) When loading blasting agents pneumatically over electric blasting caps, semiconductive delivery hose shall be used and the equipment shall be bonded and grounded.

43. In § 1926.914, new paragraph (aa) is added to read as follows:

§ 1926.914 Definitions applicable to this subpart.

* * * * *

(aa) *Semiconductive hose.* Semiconductive hose—a hose with an electrical resistance high enough to limit flow of stray electric currents to safe levels, yet not so high as to prevent drainage of static electric charges to ground; hose of not more than 2 megohms resistance over its entire length and of not less than 5,000 ohms per foot meets the requirement.

Subpart X—Stairways and Ladders

44. In § 1926.1050, a new paragraph defining *ladder stands* is added to read as follows:

§ 1926.1050 Scope, application, and definitions applicable to this subpart.

* * * * *

(b)

* * * * *

Ladder stand. A mobile fixed size self-supporting ladder consisting of a wide flat tread ladder in the form of stairs. The assenbly may include handrails.

45. In part 1926, a new subpart Y—Diving is added to read as follows:

Subpart Y—Diving

General

§ 1926.1071 Scope and application.

(a) *Scope.* (1) This subpart (standard) applies to every place of employment within the waters of the United States, or within any State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, Guam, the Trust Territory of the Pacific Islands, Wake Island, Johnston Island, the Canal Zone, or within the Outer Continental Shelf lands as defined in the Outer Continental Shelf Lands Act (67 Stat. 462, 43 U.S.C. 1331), where diving and related support operations are performed.

(2) This standard applies to diving and related support operations conducted in connection with all types of work and employments, including general industry, construction, ship repairing, shipbuilding, shipbreaking and longshoring. However, this standard does not apply to any diving operation:

(i) Performed solely for instructional purposes, using open-circuit, compressed-air SCUBA and conducted within the no-decompression limits;

(ii) Performed solely for search, rescue, or related public safety purposes by or under the control of a governmental agency; or

(iii) Governed by 45 CFR part 46 (Protection of Human Subjects, U.S. Department of Health and Human Services) or equivalent rules or regulations established by another federal agency, which regulate research, development, or related purposes involving human subjects.

(iv) Defined as scientific diving and which is under the direction and control of a diving program containing at least the following elements:

(A) Diving safety manual which includes at a minimum: Procedures covering all diving operations specific to the program; procedures for emergency care, including recompression and evacuation; and criteria for diver training and certification.

(B) Diving control (safety) board, with the majority of its members being active divers, which shall at a minimum have the authority to: Approve and monitor diving projects; review and revise the diving safety manual; assure compliance with the manual; certify the depths to which a diver has been trained; take disciplinary action for unsafe practices; and, assure adherence to the buddy system (a diver is accompanied by and is in continuous contact with another diver in the water) for SCUBA diving.

(b) *Application in emergencies.* An employer may deviate from the requirements of this standard to the extent necessary to prevent or minimize a situation which is likely to cause death, serious physical harm, or major environmental damage, provided that the employer:

(1) Notifies the Area Director, Occupational Safety and Health Administration within 48 hours of the onset of the emergency situation indicating the nature of the emergency and extent of the deviation from the prescribed regulations; and

(2) Upon request from the Area Director, submits such information in writing.

(c) *Employer obligation.* The employer shall be responsible for compliance with:

(1) All provisions of this standard of general applicability; and

(2) All requirements pertaining to specific diving modes to the extent diving operations in such modes are conducted.

§ 1926.1072 Definitions.

As used in this standard, the listed terms are defined as follows:

Acfm: Actual cubic feet per minute.

ASME Code or equivalent: ASME (American Society of Mechanical Engineers) Boiler and Pressure Vessel Code, Section VIII, or an equivalent code which the employer can demonstrate to be equally effective.

ATA: Atmosphere absolute.

Bell: An enclosed compartment, pressurized (closed bell) or unpressurized (open bell), which allows the diver to be transported to and from the underwater work area and which may be used as a temporary refuge during diving operations.

Bottom time: The total elasped time measured in minutes from the time when the diver leaves the surface in descent to the time that the diver begins ascent.

Bursting pressure: The pressure at which a pressure containment device would fail structurally.

Cylinder: A pressure vessel for the storage of gases.

Decompression chamber: A pressure vessel for human occupancy such as a surface decompression chamber, closed bell, or deep diving system used to decompress divers and to treat decompression sickness.

Decompression sickness: A condition with a variety of symptoms which may result from gas or bubbles in the tissues of divers after pressure reduction.

Decompression table: A profile or set of profiles of depth-time relationships

for ascent rates and breathing mixtures to be followed after a specific depth-time exposure or exposures.

Dive location: A surface or vessel from which a diving operation is conducted.

Dive-location reserve breathing gas: A supply system of air or mixed-gas (as appropriate) at the dive location which is independent of the primary supply system and sufficient to support divers during the planned decompression.

Dive team: Divers and support employees involved in a diving operation, including the designated person-in-charge.

Diver: An employee working in water using underwater apparatus which supplies compressed breathing gas at the ambient pressure.

Diver-carried reserve breathing gas: A diver-carried supply of air or mixed gas (as appropriate) sufficient under standard operating conditions to allow the diver to reach the surface, or another source of breathing gas, or to be reached by a standby diver.

Diving mode: A type of diving requiring specific equipment, procedures and techniques (SCUBA, surface-supplied air, or mixed gas).

Fsw: Feet of seawater (or equivalent static pressure head).

Heavy gear: Diver-worn deep-sea dress including helmet, breastplate, dry suit, and weighted shoes.

Hyperbaric conditions: Pressure conditions in excess of surface pressure.

Inwater stage: A suspended underwater platform which supports a diver in the water.

Liveboating: The practice of supporting a surfaced-supplied air or mixed gas diver from a vessel which is underway.

Mixed-gas diving: A diving mode in which the diver is supplied in the water with a breathing gas other than air.

No-decompression limits: The depth-time limits of the "no-decompression limits and repetitive dive group designation table for no-decompression air dives", U.S. Navy Diving Manual or equivalent limits which the employer can demonstrate to be equally effective.

Psi(g): Pounds per square inch (gauge).

Scientific diving means diving performed solely as a necessary part of a scientific, research, or educational activity by employees whose sole purpose for diving is to perform scientific research tasks. Scientific diving does not include performing any tasks usually associated with commercial diving such as: Placing or removing heavy objects underwater; inspection of pipelines and similar objects; construction; demolition; cutting or welding; or the use of explosives.

SCUBA diving: A diving mode independent of surface supply in which the diver uses open circuit self-contained underwater breathing apparatus.

Standby diver: A diver at the dive location available to assist a diver in the water.

Surface-supplied air diving: A diving mode in which the diver in the water is supplied from the dive location with compressed air for breathing.

Treatment table: A depth-time and breathing gas profile designed to treat decompression sickness.

Umbilical: The composite hose bundle between a dive location and a diver or bell, or between a diver and a bell, which supplies the diver or bell with breathing gas, communications, power, or heat as appropriate to the diving mode or conditions, and includes a safety line between the diver and the dive location.

Volume tank: A pressure vessel connected to the outlet of a compressor and used as an air reservoir.

Working pressure: The maximum pressure to which a pressure containment device may be exposed under standard operating conditions.

Personnel Requirements

§ 1926.1076 Qualifications of dive team.

(a) *General.* (1) Each dive team member shall have the experience or training necessary to perform assigned tasks in a safe and healthful manner.

(2) Each dive team member shall have experience or training in the following:

(i) The use of tools, equipment and systems relevant to assigned tasks;

(ii) Techniques of the assigned diving mode; and

(iii) Diving operations and emergency procedures.

(3) All dive team members shall be trained in cardiopulmonary resuscitation and first aid (American Red Cross standard course or equivalent).

(4) Dive team members who are exposed to or control the exposure of others to hyperbaric conditions shall be trained in diving-related physics and physiology.

(b) *Assignments.* (1) Each dive team member shall be assigned tasks in accordance with the employee's experience or training, except that limited additional tasks may be assigned to an employee undergoing training provided that these tasks are performed under the direct supervision of an experienced dive team member.

(2) The employer shall not require a dive team member to be exposed to hyperbaric conditions against the employee's will, except when necessary to complete decompression or treatment procedures.

(3) The employer shall not permit a dive team member to dive or be otherwise exposed to hyperbaric conditions for the duration of any temporary physical impairment or condition which is known to the employer and is likely to affect adversely the safety or health of a dive team member.

(c) *Designated person-in-charge.* (1) The employer or an employee designated by the employer shall be at the dive location in charge of all aspects of the diving operation affecting the safety and health of dive team members.

(2) The designated person-in-charge shall have experience and training in the conduct of the assigned diving operation.

General Operations Procedures

§ 1926.1080 Safe practices manual.

(a) *General.* The employer shall develop and maintain a safe practices manual which shall be made available at the dive location to each dive team member.

(b) *Contents.* (1) The safe practices manual shall contain a copy of this standard and the employer's policies for implementing the requirements of this standard.

(2) For each diving mode engaged in, the safe practices manual shall include:

(i) Safety procedures and checklists for diving operations;

(ii) Assignments and responsibilities of the dive team members;

(iii) Equipment procedures and checklists; and

(iv) Emergency procedures for fire, equipment failure, adverse environmental conditions, and medical illness and injury.

(The information collection requirements contained in paragraph (b) were approved by the Office of Management and Budget under control number 1218–0069)

§ 1926.1081 Pre-dive procedures.

(a) *General.* The employer shall comply with the following requirements prior to each diving operation, unless otherwise specified.

(b) *Emergency aid.* A list shall be kept at the dive location of the telephone or call numbers of the following:

(1) An operational decompression chamber (if not at the dive location);

(2) Accessible hospitals;

(3) Available physicians;

(4) Available means of transportation; and

(5) The nearest U.S. Coast Guard Rescue Coordination Center.

(c) *First aid supplies.* (1) A first aid kit appropriate for the diving operation and approved by a physician shall be available at the dive location.

(2) When used in a decompression chamber or bell, the first aid kit shall be suitable for use under hyperbaric conditions.

(3) In addition to any other first aid supplies, an American Red Cross standard first aid handbook or equivalent, and a bag-type manual resuscitator with transparent mask and tubing shall be available at the dive location.

(d) *Planning and assessment.* Planning of a diving operation shall include an assessment of the safety and health aspects of the following:

(1) Diving mode;

(2) Surface and underwater conditions and hazards;

(3) Breathing gas supply (including reserves);

(4) Thermal protection;

(5) Diving equipment and systems;

(6) Dive team assignments and physical fitness of dive team members (including any impairment known to the employer);

(7) Repetitive dive designation or residual inert gas status of dive team members;

(8) Decompression and treatment procedures (including altitude corrections); and

(9) Emergency procedures.

(e) *Hazardous activities.* To minimize hazards to the dive team, diving operations shall be coordinated with other activities in the vicinity which are likely to interfere with the diving operation.

(f) *Employee briefing.* (1) Dive team members shall be briefed on:

(i) The tasks to be undertaken;

(ii) Safety procedures for the diving mode;

(iii) Any unusual hazards or environmental conditions likely to affect the safety of the diving operation; and

(iv) Any modifications to operating procedures necessitated by the specific diving operation.

(2) Prior to making individual dive team member assignments, the employer shall inquire into the dive team member's current state of physical fitness, and indicate to the dive team member the procedure for reporting physical problems or adverse physiological effects during and after the dive.

(g) *Equipment inspection.* The breathing gas supply system including reserve breathing gas supplies, masks, helmets, thermal protection, and bell handling mechanism (when appropriate) shall be inspected prior to each dive.

(h) *Warning signal.* When diving from surfaces other than vessels in areas capable of supporting marine traffic, a rigid replica of the international code flag "A" at least one meter in height shall be displayed at the dive location in a manner which allows all-round visibility, and shall be illuminated during night diving operations.

(Approved by the Office of Management and Budget under control number 1218–0069)

§ 1926.1082 Procedures during dive.

(a) *General.* The employer shall comply with the following requirements which are applicable to each diving operation unless otherwise specified.

(b) *Water entry and exit.* (1) A means capable of supporting the diver shall be provided for entering and exiting the water.

(2) The means provided for exiting the water shall extend below the water surface.

(3) A means shall be provided to assist an injured diver from the water or into a bell.

(c) *Communications.* (1) An operational two-way voice communication system shall be used between:

(i) Each surface-supplied air or mixed-gas diver and a dive team member at the dive location or bell (when provided or required); and

(ii) The bell and the dive location.

(2) An operational, two-way communication system shall be available at the dive location to obtain emergency assistance.

(d) *Decompression tables.* Decompression, repetitive, and no-decompression tables (as appropriate) shall be at the dive location.

(e) *Dive profiles.* A depth-time profile, including when appropriate any breathing gas changes, shall be maintained for each diver during the dive including decompression.

(f) *Hand-held power tools and equipment.* (1) Hand-held electrical tools and equipment shall be de-energized before being placed into or retrieved from the water.

(2) Hand-held power tools shall not be supplied with power from the dive location until requested by the diver.

(g) *Welding and burning.* (1) A current supply switch to interrupt the current flow to the welding or burning electrode shall be:

(i) Tended by a dive team member in voice communication with the diver performing the welding or burning; and

(ii) Kept in the open position except when the diver is welding or burning.

(2) The welding machine frame shall be grounded.

(3) Welding and burning cables, electrode holders, and connections shall be capable of carrying the maximum current required by the work, and shall be properly insulated.

(4) Insulated gloves shall be provided to divers performing welding and burning operations.

(5) Prior to welding or burning on closed compartments, structures or pipes, which contain a flammable vapor or in which a flammable vapor may be generated by the work, they shall be vented, flooded, or purged with a mixture of gases which will not support combustion.

(h) *Explosives.* (1) Employers shall transport, store, and use explosives in accordance with this section and the applicable provisions of 29 CFR 1910.109 and 1926.912.

(2) Electrical continuity of explosive circuits shall not be tested until the diver is out of the water.

(3) Explosives shall not be detonated while the diver is in the water.

(i) *Termination of dive.* The working interval of a dive shall be terminated when:

(1) A diver requests termination;

(2) A diver fails to respond correctly to communications or signals from a dive team member;

(3) Communications are lost and can not be quickly re-established between the diver and a dive team member at the dive location, and between the designated person-in-charge and the person controlling the vessel in liveboating operations; or

(4) A diver begins to use diver-carried reserve breathing gas or the dive-location reserve breathing gas.

§ 1926.1083 Post-dive procedures.

(a) *General.* The employer shall comply with the following requirements which are applicable after each diving operation, unless otherwise specified.

(b) *Precautions.* (1) After the completion of any dive, the employer shall:

(i) Check the physical condition of the diver;

(ii) Instruct the diver to report any physical problems or adverse physiological effects including symptoms of decompression sickness;

(iii) Advise the diver of the location of a decompression chamber which is ready for use; and

(iv) Alert the diver to the potential hazards of flying after diving.

(2) For any dive outside the no-decompression limits, deeper than 100 fsw or using mixed gas as a breathing mixture, the employer shall instruct the diver to remain awake and in the vicinity of the decompression chamber

which is at the dive location for at least one hour after the dive (including decompression or treatment as appropriate).

(c) *Recompression capability.* (1) A decompression chamber capable of recompressing the diver at the surface to a minimum of 165 fsw (6 ATA) shall be available at the dive location for:

(i) Surface-supplied air diving to depths deeper than 100 fsw and shallower than 220 fsw;

(ii) Mixed gas diving shallower than 300 fsw; or

(iii) Diving outside the no-decompression limits shallower than 300 fsw.

(2) A decompression chamber capable of recompressing the diver at the surface to the maximum depth of the dive shall be available at the dive location for dives deeper than 300 fsw.

(3) The decompression chamber shall be:

(i) Dual-lock;

(ii) Multiplace; and

(iii) Located within 5 minutes of the dive location.

(4) The decompression chamber shall be equipped with:

(i) A pressure gauge for each pressurized compartment designed for human occupancy;

(ii) A built-in-breathing-system with a minimum of one mask per occupant;

(iii) A two-way voice communication system between occupants and a dive team member at the dive location;

(iv) A viewport; and

(v) Illumination capability to light the interior.

(5) Treatment tables, treatment gas appropriate to the diving mode, and sufficient gas to conduct treatment shall be available at the dive location.

(6) A dive team member shall be available at the dive location during and for at least one hour after the dive to operate the decompression chamber (when required or provided).

(d) *Record of dive.* (1) The following information shall be recorded and maintained for each diving operation:

(i) Names of dive team members including designated person-in-charge;

(ii) Date, time, and location;

(iii) Diving modes used;

(iv) General nature of work performed;

(v) Approximate underwater and surface conditions (visibility, water temperature and current); and

(vi) Maximum depth and bottom time for each diver.

(2) For each dive outside the no-decompression limits, deeper than 100 fsw or using mixed gas, the following additional information shall be recorded and maintained:

(i) Depth-time and breathing gas profiles;

(ii) Decompression table designation (including modification); and

(iii) Elapsed time since last pressure exposure if less than 24 hours or repetitive dive designation for each diver.

(3) For each dive in which decompression sickness is suspected or symptoms are evident, the following additional information shall be recorded and maintained:

(i) Description of decompression sickness symptoms (including depth and time of onset); and

(ii) Description and results of treatment.

(e) *Decompression procedure assessment.* The employer shall:

(1) Investigate and evaluate each incident of decompression sickness based on the recorded information, consideration of the past performance of decompression table used, and individual susceptibility;

(2) Take appropriate corrective action to reduce the probability of recurrence of decompression sickness; and

(3) Prepare a written evaluation of the decompression procedure assessment, including any corrective action taken, within 45 days of the incident of decompression sickness.

(The information collection requirements contained in paragraphs (d) and (e) were approved by the Office of Management and Budget under control number 1218–0069)

Specific Operations Procedures

§ 1926.1084 SCUBA diving.

(a) *General.* Employers engaged in SCUBA diving shall comply with the following requirements, unless otherwise specified.

(b) *Limits.* SCUBA diving shall not be conducted:

(1) At depths deeper than 130 fsw;

(2) At depths deeper than 100 fsw or outside the no-decompression limits unless a decompression chamber is ready for use;

(3) Against currents exceeding one (1) knot unless line-tended; or

(4) In enclosed or physically confining spaces unless line-tended.

(c) *Procedures.* (1) A standby diver shall be available while a diver is in the water.

(2) A diver shall be line-tended from the surface, or accompanied by another diver in the water in continuous visual contact during the diving operations.

(3) A diver shall be stationed at the underwater point of entry when diving is conducted in enclosed or physically confining spaces.

(4) A diver-carried reserve breathing gas supply shall be provided for each diver consisting of:

(i) A manual reserve (J valve); or

(ii) An independent reserve cylinder with a separate regulator or connected to the underwater breathing apparatus.

(5) The valve of the reserve breathing gas supply shall be in the closed position prior to the dive.

§ 1926.1085 Surface-supplied air diving.

(a) *General.* Employers engaged in surface-supplied air diving shall comply with the following requirements, unless otherwise specified.

(b) *Limits.* (1) Surface-supplied air diving shall not be conducted at depths deeper than 190 fsw, except that dives with bottom times of 30 minutes or less may be conducted to depths of 220 fsw.

(2) A decompression chamber shall be ready for use at the dive location for any dive outside the no-decompression limits or deeper than 100 fsw.

(3) A bell shall be used for dives with an inwater decompression time greater than 120 minutes, except when heavy gear is worn or diving is conducted in physically confining spaces.

(c) *Procedures.* (1) Each diver shall be continuously tended while in the water.

(2) A diver shall be stationed at the underwater point of entry when diving is conducted in enclosed or physically confining spaces.

(3) Each diving operation shall have a primary breathing gas supply sufficient to support divers for the duration of the planned dive including decompression.

(4) For dives deeper than 100 fsw or outside the no-decompression limits:

(i) A separate dive team member shall tend each diver in the water;

(ii) A standby diver shall be available while a diver is in the water;

(iii) A diver-carried reserve breathing gas supply shall be provided for each diver except when heavy gear is worn; and

(iv) A dive-location reserve breathing gas supply shall be provided.

(5) For heavy-gear diving deeper than 100 fsw or outside the no-decompression limits:

(i) An extra breathing gas hose capable of supplying breathing gas to the diver in the water shall be available to the standby diver.

(ii) An inwater stage shall be provided to divers in the water.

(6) Except when heavy gear is worn or where physical space does not permit, a diver-carried reserve breathing gas supply shall be provided whenever the diver is prevented by the configuration of the dive area from ascending directly to the surface.

§ 1926.1066 Mixed-gas diving.

(a) *General.* Employers engaged in mixed-gas diving shall comply with the following requirements, unless otherwise specified.

(b) *Limits.* Mixed-gas diving shall be conducted only when:

(1) A decompression chamber is ready for use at the dive location; and

(i) A bell is used at depths greater than 220 fsw or when the dive involves inwater decompression time of greater than 120 minutes, except when heavy gear is worn or when diving in physically confining spaces; or

(ii) A closed bell is used at depths greater than 300 fsw, except when diving is conducted in physically confining spaces.

(c) *Procedures.* (1) A separate dive team member shall tend each diver in the water.

(2) A standby diver shall be available while a diver is in the water.

(3) A diver shall be stationed at the underwater point of entry when diving is conducted in enclosed or physically confining spaces.

(4) Each diving operation shall have a primary breathing gas supply sufficient to support divers for the duration of the planned dive including decompression.

(5) Each diving operation shall have a dive-location reserve breathing gas supply.

(6) When heavy gear is worn:

(i) An extra breathing gas hose capable of supplying breathing gas to the diver in the water shall be available to the standby diver; and

(ii) An inwater stage shall be provided to divers in the water.

(7) An inwater stage shall be provided for divers without access to a bell for dives deeper than 100 fsw or outside the no-decompression limits.

(8) When a closed bell is used, one dive team member in the bell shall be available and tend the diver in the water.

(9) Except when heavy gear is worn or where physical space does not permit, a diver-carried reserve breathing gas supply shall be provided for each diver:

(i) Diving deeper than 100 fsw or outside the no-decompression limits; or

(ii) Prevented by the configuration of the dive area from directly ascending to the surface.

§ 1926.1067 Liveboating.

(a) *General.* Employers engaged in diving operations involving liveboating shall comply with the following requirements.

(b) *Limits.* Diving operations involving liveboating shall not be conducted:

(1) With an inwater decompression time of greater than 120 minutes;

(2) Using surface-supplied air at depths deeper than 190 fsw, except that dives with bottom times of 30 minutes or less may be conducted to depths of 220 fsw;

(3) Using mixed gas at depths greater than 220 fsw;

(4) In rough seas which significantly inpede diver mobility or work function; or

(5) In other than daylight hours.

(c) *Procedures.* (1) The propeller of the vessel shall be stopped before the diver enters or exits the water.

(2) A device shall be used which minimizes the possibility of entanglement of the diver's hose in the propeller of the vessel.

(3) Two-way voice communication between the designated person-in-charge and the person controlling the vessel shall be available while the diver is in the water.

(4) A standby diver shall be available while a diver is in the water.

(5) A diver-carried reserve breathing gas supply shall be carried by each diver engaged in liveboating operations.

Equipment Procedures and Requirements

§ 1926.1090 Equipment.

(a) *General.* (1) All employers shall comply with the following requirements, unless otherwise specified.

(2) Each equipment modification, repair, test, calibration or maintenance service shall be recorded by means of a tagging or logging system, and include the date and nature of work performed, and the name or initials of the person performing the work.

(b) *Air compressor system.* (1) Compressors used to supply air to the diver shall be equipped with a volume tank with a check valve on the inlet side, a pressure gauge, a relief valve, and a drain valve.

(2) Air compressor intakes shall be located away from areas containing exhaust or other contaminants.

(3) Respirable air supplied to a diver shall not contain:

(i) A level of carbon monoxide (CO) greater than 20 p/m;

(ii) A level of carbon dioxide (CO_2) greater than 1,000 p/m;

(iii) A level of oil mist greater than 5 milligrams per cubic meter; or

(iv) A noxious or pronounced odor.

(4) The output of air compressor systems shall be tested for air purity every 6 months by means oif samples taken at the connection to the distribution system, except that non-oil lubricated compressors need not be tested for oil mist.

(c) *Breathing gas supply hoses.* (1) Breathing gas supply hoses shall:

(i) Have a working pressure at least equal to the working pressure of the total breathing gas system;

(ii) Have a rated bursting pressure at least equal to 4 times the working pressure;

(iii) Be tested at least annually to 1.5 times their working pressure; and

(iv) Have their open ends taped, capped or plugged when not in use.

(2) Breathing gas supply hose connectors shall:

(i) Be made of corrosion-resistant materials;

(ii) Have a working pressure at least equal to the working pressure of the hose to which they are attached; and

(iii) Be resistant to accidental disengagement.

(3) Umbilicals shall:

(i) Be marked in 10-ft. increments to 100 feet beginning at the diver's end, and in 50 ft. increments thereafter;

(ii) Be made of kink-resistant materials; and

(iii) Have a working pressure greater than the pressure equivalent to the maximum depth of the dive (relative to the supply source) plus 100 psi.

(d) *Buoyancy control.* (1) Helmets or masks connected directly to the dry suit or other buoyancy-changing equipment shall be equipped with an exhaust valve.

(2) A dry suit or other buoyancy-changing equipment not directly connected to the helmet or mask shall be equipped with an exhaust valve.

(3) When used for SCUBA diving, a buoyancy compensator shall have an inflation source separate from the breathing gas supply.

(4) An inflatable flotation device capable of maintaining the diver at the surface in a face-up position, having a manually activated inflation source independent of the breathing supply, an oral inflation device, and an exhaust valve shall be used for SCUBA diving.

(e) *Compressed gas cylinders.* Compressed gas cylinders shall:

(1) Be designed, constructed and maintained in accordance with the applicable provisions of 29 CFR 1910.101 and 1910.169 through 1910.171 and 1926.306;

(2) Be stored in a ventilated area and protected from excessive heat;

(3) Be secured from falling; and

(4) Have shut-off valves recessed into the cylinder or protected by a cap, except when in use or manifolded, or when used for SCUBA diving.

(f) *Decompression chambers.* (1) Each decompression chamber manufactured after the effective date of this standard, shall be built and maintained in

accordance with the ASME Code or equivalent.

(2) Each decompression chamber manufactured prior to the effective date of this standard shall be maintained in conformity with the code requirements to which it was built, or equivalent.

(3) Each decompression chamber shall be equipped with:

(i) Means to maintain the atmosphere below a level of 25 percent oxygen by volume;

(ii) Mufflers on intake and exhaust lines, which shall be regularly inspected and maintained;

(iii) Suction guards on exhaust line openings; and

(iv) A means for extinguishing fire, and shall be maintained to minimize sources of ignition and combustible material.

(g) *Gauges and timekeeping devices.* (1) Gauges indicating diver depth which can be read at the dive location shall be used for all dives except SCUBA.

(2) Each depth gauge shall be deadweight tested or calibrated against a master reference gauge every 6 months, and when there is a discrepancy greater than two percent (2 percent) of full scale between any two equivalent gauges.

(3) A cylinder pressure gauge capable of being monitored by the diver during the dive shall be worn by each SCUBA diver.

(4) A timekeeping device shall be available at each dive location.

(h) *Masks and helmets.* (1) Surface-supplied air and mixed-gas masks and helmets shall have:

(i) A non-return valve at the attachment point between helmet or mask and hose which shall close readily and positively; and

(ii) An exhaust valve.

(2) Surface-supplied air masks and helmets shall have a minimum ventilation rate capability of 4.5 acfm at any depth at which they are operated or the capability of maintaining the diver's inspired carbon dioxide partial pressure below 0.02 ATA when the diver is producing carbon dioxide at the rate of 1.6 standard liters per minute.

(i) *Oxygen safety.* (1) Equipment used with oxygen or mixtures containing over forty percent (40%) by volume oxygen shall be designed for oxygen service.

(2) Components (except umbilicals) exposed to oxygen or mixtures containing over forty percent (40%) by volume oxygen shall be cleaned of flammable materials before use.

(3) Oxygen systems over 125 psig and compressed air systems over 500 psig shall have slow-opening shut-off valves.

(j) *Weights and harnesses.* (1) Except when heavy gear is worn, divers shall be equipped with a weight belt or assembly capable of quick release.

(2) Except when heavy gear is worn or in SCUBA diving, each diver shall wear a safety harness with:

(i) A positive buckling device;

(ii) An attachment point for the umbilical to prevent strain on the mask or helmet; and

(iii) A lifting point to distribute the pull force of the line over the diver's body.

(The information collection requirements contained in paragraph (a)(2) were approved by the Office of Management and Budget under control number 1218–0069)

Recordkeeping

§ 1926.1091 Recordkeeping requirements.

(a)(1) [Reserved]

(2) The employer shall record the occurrence of any diving-related injury or illness which requires any dive team member to be hospitalized for 24 hours or more, specifying the circumstances of the incident and the extent of any injuries or illnesses.

(b) *Availability of records.* (1) Upon the request of the Assistant Secretary of Labor for Occupational Safety and Health, or the Director, National Institute for Occupational Safety and Health, Department of Health and Human Services of their designees, the employer shall make available for inspection and copying any record or document required by this standard.

(2) Records and documents required by this standard shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). Safe practices manuals (§ 1926.1080), depth-time profiles (§ 1926.1082), recordings of dives (§ 1926.1083), decompression procedure assessment evaluations (§ 1926.1083), and records of hospitalizations (§ 1926.1091) shall be provided in the same manner as employee exposure records or analyses using exposure or medical records. Equipment inspections and testing records which pertain to employees (§ 1926.1090) shall also be provided upon request to employees and their designated representatives.

(3) Records and documents required by this standard shall be retained by the employer for the following period:

(i) Dive team member medical records (physician's reports) (§ 1926.1076)—5 years;

(ii) Safe practices manual (§ 1926.1080)—current document only;

(iii) Depth-time profile (§ 1926.1082)—until completion of the recording of dive, or until completion of decompression procedure assessment where there has been an incident of decompression sickness;

(iv) Recording of dive (§ 1926.1083)—1 year, except 5 years where there has been an incident of decompression sickness;

(v) Decompression procedure assessment evaluations (§ 1926.1083)—5 years;

(vi) Equipment inspections and testing records (§ 1926.1090)—current entry or tag, or until equipment is withdrawn from service;

(vii) Records of hospitalizations (§ 1926.1091)—5 years.

(4) After the expiration of the retention period of any record required to be kept for five (5) years, the employer shall forward such records to the National Institute for Occupational Safety and Health, Department of Health and Human Services. The employer shall also comply with any additional requirements set forth at 29 CFR 1926.33(h).

(5) In the event the employer ceases to do business:

(i) The successor employer shall receive and retain all dive and employee medical records required by this standard; or

(ii) If there is no successor employer, dive and employee medical records shall be forwarded to the National Institute for Occupational Safety and Health, Department of Health and Human Services.

(Approved by the Office of Management and Budget under control number 1218–0058)

§ 1926.1092 Effective date.

This standard shall be effective on October 20, 1977, except that for provisions where decompression chambers or bells are required and such equipment is not yet available, employers shall comply as soon as possible thereafter but in no case later than 6 months after the effective date of the standard.

Appendix A to Subpart Y—Examples of Conditions Which May Restrict or Limit Exposure to Hyperbaric Conditions

The following disorders may restrict or limit occupational exposure to hyperbaric conditions depending on severity, presence of residual effects, response to therapy, number of occurrences, diving mode, or degree and duration of isolation.

History of seizure disorder other than early febrile convulsions.

Malignancies (active) unless treated and without recurrence for 5 yrs.

Chronic inability to equalize sinus and/or middle ear pressure.

Cystic or cavitary disease of the lungs.

Impaired organ function caused by alcohol or drug use.

Conditions requiring continuous medication for control (e.g., antihistamines, steroids, barbiturates, moodaltering drugs, or insulin).

Meniere's disease.

Hemoglobinopathies.

Obstructive or restrictive lung disease.

Vestibular end organ destruction.

Pneumothorax.

Cardiac abnormalities (e.g., pathological heart block, valvular disease, intraventricular conduction defects other than isolated right bundle branch xblock, angina pectoris, arrhythmia, coronary artery disease).

Juxta-articular osteonecrosis.

Appendix B to Subpart Y—Guidelines for Scientific Diving

This appendix contains guidelines that will be used in conjunction with § 1926.1071(a)(2)(iv) to determine those scientific diving programs which are exempt from the requirements for commercial diving. The guidelines are as follows:

1. The Diving Control Board consists of a majority of active scientific divers and has autonomous and absolute authority over the scientific diving program's operations.

2. The purpose of the project using scientific diving is the advancement of science; therefore, information and data resulting from the project are non-proprietary.

3. The tasks of a scientific diver are those of an observer and data gatherer. Construction and trouble-shooting tasks traditionally associated with commercial diving are not included within scientific diving.

4. Scientific divers, based on the nature of their activities, must use scientific expertise in studying the underwater environment and, therefore, are scientists or scientists in training.

46. In part 1926, a new subpart Z—Toxic and Hazardous Substances is added to read as follows:

Subpart Z—Toxic and Hazardous Substances

Authority: Sections 6 and 8, Occupational Safety and Health Act, 29 U.S.C. 655, 657; Secretary of Labor's Orders Nos. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736) or 1–90 (55 FR 9033) as applicable; and 29 CFR part 1911.

Section 1926.1102 not issued under 29 U.S.C. 655 or 29 CFR part 1911; also issued under 5 U.S.C. 653.

Section 1926.1103 through 1926.1118 also issued under 29 U.S.C. 653.

Section 1926.1128 also issued under 29 U.S.C. 653.

Section 1926.1145 and 1926.1147 also issued under 29 U.S.C. 653.

Section 1926.1148 also issued under 29 U.S.C. 653.

§§ 1926.1100—1926.1101 [Reserved]

§ 1926.1102 Coal tar pitch volatiles; interpretation of term

Coal tar pitch volatiles include the fused polycyclic hydrocarbons which volatilize from the distillation residues of coal, petroleum (excluding asphalt), wood, and other organic matter. Asphalt (CAS 8052–42–4, and CAS 64742–93–4) is not covered under the "coal tar pitch volatiles" standard.

§ 1926.1103 4-Nitrobiphenyl.

(a) *Scope and application.* (1) This section applies to any area in which 4-Nitrobiphenyl, Chemical Abstracts Service Registry Number 92933 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 0.1 percent by weight or volume of 4-Nitrobiphenyl.

(b) *Definitions.* For the purposes of this section:

(1) *Absolute filter* is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of 4-Nitrobiphenyl. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving 4-Nitrobiphenyl where containment prevents the release of 4-Nitrobiphenyl into regulated areas, non-regulated areas, or the external environment.

(5) *Decontamination* means the inactivation of 4-Nitrobiphenyl or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of 4-Nitrobiphenyl from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of 4-Nitrobiphenyl which may result in exposure to or contact with 4-Nitrobiphenyl.

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment of 4-Nitrobiphenyl, which is impervious to the passage of 4-Nitrobiphenyl, and which would prevent the entry of 4-Nitrobiphenyl into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving 4-Nitrobiphenyl within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) *Open-vessel system* means an operation involving 4-Nitrobiphenyl in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of 4-Nitrobiphenyl into regulated areas, non-regulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to 4-Nitrobiphenyl.

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) "Requirements for areas containing 4-Nitrobiphenyl." A regulated area shall be established by an employer where 4-Nitrobiphenyl is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with 4-Nitrobiphenyl within an isolated system such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where 4-Nitrobiphenyl is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while 4-Nitrobiphenyl is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas.

close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where 4-Nitrobiphenyl is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in 4-Nitrobiphenyl handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1926.103. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with 4-Nitrobiphenyl could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with 4-Nitrobiphenyl such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f)(4).

(iv) Where employees wear protective clothing and equipment, clean change rooms shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove 4-Nitrobiphenyl from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of 4-Nitrobiphenyl and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of 4-Nitrobiphenyl and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible to, or handled by employees other than

authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have 4-Nitrobiphenyl contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by paragraph (e)(1) shall be a minimum letter height of 2 inches (5.08 cm). Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance. *Provided,* That no such required lettering need be more than 1 inch (2.54 cm) in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(A) The nature of the carcinogenic hazards of 4-Nitrobiphenyl, including local and systemic toxicity;

(B) The specific nature of the operation involving 4-Nitrobiphenyl which could result in exposure;

(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose for and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 4-Nitrobiphenyl;

(H) The purpose for and application of specific first aid procedures and practices;

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of 4-Nitrobiphenyl in each regulated area.

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which 4-Nitrobiphenyl is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of 4-Nitrobiphenyl into any area where employees may be potentially exposed shall be reported in accordance with this paragraph. (i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0085)

§ 1926.1104 alpha-Naphthylamine.

(a) *Scope and application.* (1) This section applies to any area in which alpha-Naphthylamine, Chemical Abstracts Service Registry Number 134327 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less

than 1.0 percent by weight or volume of alpha-Naphthylamine.

(3) This section will not apply to operations involving the destructive distillation of carbonaceous materials, such as occurs in coke ovens.

(b) *Definitions.* For the purposes of this section: (1) *Absolute filter* is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.2μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of alpha-Naphthylamine. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving alpha-Naphthylamine where containment prevents the release of alpha-Naphthylamine into regulated areas, nonregulated areas, or the external environment.

(5) *Decontamination* means the inactivation of alpha-Naphthylamine or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of alpha-Naphthylamine from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of alpha-Naphthylamine which may result in exposure to or contact with alpha-Naphthylamine.

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment of alpha-Naphthylamine, which is impervious to the passage of alpha-Naphthylamine, and which would prevent the entry of alpha-Naphthylamine into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving alpha-Naphthylamine within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) *Open-vessel system* means an operation involving alpha-Naphthylamine in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of alpha-Naphthylamine into regulated areas, nonregulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to alpha-Naphthylamine.

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing alpha-Naphthylamine.* A regulated area shall be established by an employer where alpha-Naphthylamine is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with alpha-Naphthylamine within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where alpha-Naphthylamine is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while alpha-Naphthylamine is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where alpha-Naphthylamine is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), and shoe covers and gloves prior to entering a regulated area.

(iv) Employees engaged in alpha-Naphthylamine handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1926.103. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exist of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with alpha-Naphthylamine could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected areas shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with alpha-Naphthylamine, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f)(4).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove alpha-Naphthylamine from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training—*

(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of alpha-Naphthylamine and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of alpha-Naphthylamine and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have alpha-Naphthylamine contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by paragraph (e)(1) of this section shall be a minimum letter height of 2 inches (5.08 cm). Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch (2.54 cm) in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(A) The nature of the carcinogenic hazards of alpha-Naphthylamine, including local and systemic toxicity;

(B) The specific nature of the operation involving alpha-Naphthylamine which could result in exposure;

(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose for and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of alpha-Naphthylamine;

(H) The purpose for and application of specific first aid procedures and practices;

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request

to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of alpha-Naphthylamine in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which alpha-Naphthylamine is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of alpha-Naphthylamine into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0084)

§ 1926.1105 [Reserved]

§ 1926.1106 Methyl chloromethyl ether.

(a) *Scope and application.* (1) This section applies to any area in which methyl chloromethyl ether, Chemical Abstracts Service Registry Number 107302 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 0.1 percent by weight or volume of methyl chloromethyl ether.

(b) *Definitions.* For the purposes of this section: (1) *Absolute filter* is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of methyl chloromethyl ether. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving methyl chloromethyl ether where containment prevents the release of methyl chloromethyl ether into regulated areas, nonregulated areas, or the external environment.

(5) *Decontamination* means the inactivation of methyl chloromethyl ether or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of methyl chloromethyl ether from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of methyl chloromethyl ether which may result in exposure to or contact with methyl chloromethyl ether.

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment of methyl chloromethyl ether, which is impervious to the passage of methyl chloromethyl ether, and which would prevent the entry of methyl chloromethyl ether into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving methyl chloromethyl ether within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer

where entry and exit is neither restricted nor controlled.

(13) *Open-vessel system* means an operation involving methyl chloromethyl ether in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of methyl chloromethyl ether into regulated areas, nonregulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to methyl chloromethyl ether.

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing methyl chloromethyl ether.* A regulated area shall be established by an employer where methyl chloromethyl ether is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with methyl chloromethyl ether within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where methyl chloromethyl ether is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while methyl chloromethyl ether is contained within. Access shall be restricted to authorized employees only.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where methyl chloromethyl ether is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), and gloves prior to entering the regulated area.

(iv) Employees engaged in methyl chloromethyl ether handling operations shall be provided with and required to wear and use a full-face, supplied air respirator, of the continuous flow or pressure-demand type, in accordance with § 1926.103.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with methyl chloromethyl ether could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with methyl chloromethyl ether, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees wear protective clothing and equipment, clean change rooms shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(iii) Where toilets are in regulated areas, such toilets shall be in a separate room.

(iv) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(v) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f)(4).

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove methyl chloromethyl ether from the surfaces of materials, equipment and the decontamination facility.

(e) *Signs, information and training*— (1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of methyl chloromethyl ether and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance.with paragraph (e)(5) of this section may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of methyl chloromethyl ether and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have methyl chloromethyl ether contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by paragraph (e)(1) of this section shall be a minimum letter height of 2 inches (5.08 cm). Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch (2.54 cm) in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(A) The nature of the carcinogenic hazards of methyl chloromethyl ether, including local and systemic toxicity;

(B) The specific nature of the operation involving methyl chloromethyl ether which could result in exposure;

(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose for and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of methyl chloromethyl ether;

(H) The purpose for and application of specific first aid procedures and practices;

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of methyl chloromethyl ether in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which methyl chloromethyl ether is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of methyl chloromethyl ether into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances be taken, with specific completion dates, of the incident, and measures taken or to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this

paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0086)

§ 1926.1107 3,3′-Dichlorobenzidine (and its salts).

(a) *Scope and application.* (1) This section applies to any area in which 3,3′-Dichlorobenzidine (or its salts), Chemical Abstracts Service Registry Number 91941 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1 percent by weight or volume of 3,3′-Dichlorobenzidine (or its salts).

(b) *Definitions.* For the purposes of this section: (1) *Absolute filter* is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of 3,3′-Dichlorobenzidine (or its salts). The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving 3,3′-Dichlorobenzidine (or its salts) where containment prevents the release of 3,3′-Dichlorobenzidine (or its salts) into regulated areas, nonregulated areas, or the external environment.

(5) *Decontamination* means the inactivation of 3,3′-Dichlorobenzidine or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of 3,3′-Dichlorobenzidine (or its salts) from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of 3,3′-Dichlorobenzidine (or its salts) which may result in exposure to or contact with 3,3′-Dichlorobenzidine (or its salts).

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment, of 3,3′-Dichlorobenzidine (or its salts), which is impervious to the passage of 3,3′-Dichlorobenzidine (or its salts) and which would prevent the entry of 3,3′-Dichlorobenzidine (or its salts) into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving 3,3′-Dichlorobenzidine (or its salts) within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) *Open-vessel system* means an operation involving 3,3′-Dichlorobenzidine (or its salts) in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of 3,3′-Dichlorobenzidine (or its salts) into regulated areas, nonregulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to 3,3′-Dichlorobenzidine (or its salts).

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing 3,3′-Dichlorobenzidine (or its salts).* A regulated area shall be established by an employer where 3,3′-Dichlorobenzidine (or its salts) is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with 3,3′-Dichlorobenzidine (or its salts) within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where 3,3′-Dichlorobenzidine (or its salts) is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while 3,3′-Dichlorobenzidine (or its salts) is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where 3,3′-Dichlorobenzidine (or its salts) is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in 3,3'-Dichlorobenzidine (or its salts) handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1926.103. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with 3,3'-Dichlorobenzidine (or its salts) could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with 3,3'-Dichlorobenzidine (or its salts), such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f)(4).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove 3,3'-Dichlorobenzidine (or its salts) from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of 3,3'-Dichlorobenzidine (or its salts) and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of 3,3'-Dichlorobenzidine (or its salts) and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have 3,3'-Dichlorobenzidine (or its salts) contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body

(3) *Lettering.* Lettering on signs and instructions required by paragraph (e)(1) of this section shall be a minimum letter height of 2 inches (5.08 cm). Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required

lettering need be more than 1 inch (2.54 cm) in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(A) The nature of the carcinogenic hazards of 3,3′-Dichlorobenzidine (or its salts), including local and systemic toxicity;

(B) The specific nature of the operation involving 3,3′-Dichlorobenzidine (or its salts) which could result in exposure;

(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose for and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 3,3′-Dichlorobenzidine (or its salts);

(H) The purpose for and application of specific first aid procedures and practices;

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of 3,3′-Dichlorobenzidine (or its salts) in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which 3,3′-Dichlorobenzidine (or its salts) is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of 3,3′-Dichlorobenzidine (or its salts) into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph. (i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination, and

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids of cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0083)

§ 1926.1108 bis-Chloromethyl ether.

(a) *Scope and application.* (1) This section applies to any area in which bis-chloromethyl ether, Chemical Abstracts Service Registry Number 542881 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e)(2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 0.1 percent by weight or volume of bis-chloromethyl ether.

(b) *Definitions.* For the purposes of this section: (1) *Absolute filter* is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of bis-chloromethyl ether. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving bis-chloromethyl ether where

containment prevents the release of bis-chloromethyl ether into regulated areas, nonregulated areas, or the external environment.

(5) *Decontamination* means the inactivation of bis-chloromethyl ether or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of bis-chloromethyl ether from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of bis-chloromethyl ether which may result in exposure to or contact with bis-chloromethyl ether.

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment, of bis-chloromethyl ether, which is impervious to the passage of, bis-chloromethyl ether and which would prevent the entry of bis-chloromethyl ether into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving bis-chloromethyl ether within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) *Open-vessel system* means an operation involving bis-chloromethyl ether in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of bis-chloromethyl ether into regulated areas, nonregulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to bis-chloromethyl ether.

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing bis-chloromethyl ether.* A regulated area shall be established by an employer where bis-chloromethyl ether is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with bis-chloromethyl ether within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where bis-chloromethyl ether is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while bis-chloromethyl ether is contained within. Access shall be restricted to authorized employees only.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where bis-chloromethyl ether is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this paragraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), and gloves prior to entering the regulated area.

(iv) Employees engaged in bis-chloromethyl ether handling operations shall be provided with and required to wear and use a full-face, supplied air respirator, of the continuous flow or pressure-demand type, in accordance with § 1926.103.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e)(2), (3), and (4) of this section.

(vi) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, or any operations involving work in an area where direct contact with bis-chloromethyl ether could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with bis-chloromethyl ether such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking,

storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(iii) Where toilets are in regulated areas, such toilets shall be in a separate room.

(iv) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(v) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f)(4).

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove bis-chloromethyl ether from the surfaces of materials, equipment and the decontamination facility.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identifications.* (i) Containers of bis-chloromethyl ether and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of bis-chloromethyl ether and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have bis-chloromethyl ether contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) of this paragraph shall be a minimum letter height of 2 inches (5.08 cm). Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch (2.54 cm) in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(A) The nature of the carcinogenic hazards of bis-chloromethyl ether, including local and systemic toxicity;

(B) The specific nature of the operation involving bis-chloromethyl ether which could result in exposure;

(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose for and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of bis-chloromethyl ether;

(H) The purpose for and application of specific first aid procedures and practices;

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and inplant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of bis-chloromethyl ether in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which bis-chloromethyl ether is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of bis-chloromethyl ether into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph. (i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the

procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0087)

§ 1926.1109 beta-Naphthylamine.

(a) *Scope and application.* (1) This section applies to any area in which beta-Naphthylamine, Chemical Abstracts Service Registry Number 91598 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 0.1 percent by weight or volume of beta-Naphthylamine.

(3) This section will not apply to operations involving the destructive distillation of carbonaceous materials, such as occurs in coke ovens.

(b) *Definitions.* For the purposes of this section: (1) *Absolute filter* is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of beta-Naphthylamine. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving beta-Naphthylamine where containment prevents the release of beta-Naphthylamine into regulated areas, nonregulated areas, or the external environment.

(5) *Decontamination* means the inactivation of beta-Naphthylamine or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of beta-Naphthylamine from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of beta-Naphthylamine which may result in exposure to or contact with beta-Naphthylamine.

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment of beta-Naphthylamine, which is impervious to the passage of beta-Naphthylamine, and which would prevent the entry of beta-Naphthylamine into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving beta-Naphthylamine within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) *Open-vessel system* means an operation involving beta-Naphthylamine in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of beta-Naphthylamine into regulated areas, nonregulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to beta-Naphthylamine.

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing beta-Naphthylamine.* A regulated area shall be established by an employer where beta-Naphthylamine is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with beta-Naphthylamine within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where beta-Naphthylamine is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while beta-Napthylamine is contained within (i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where beta-Naphthylamine is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this paragraph shall apply.

(i) Access shall be restricted to authorized employees only.

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in beta-Naphthylamine handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1926.103. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with beta-Naphthylamine could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air suppled hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with beta-Napthylamine, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f)(4).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove beta-Naphthylamine from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of beta-Naphthylamine and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of beta-Naphthylamine and containers required under

paragraphs (c)(4)(v), (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have beta-Naphthylamine contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by paragraph (e)(1) shall be a minimum letter height of 2 inches (5.08 cm). Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch (2.54 cm) in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(A) The nature of the carcinogenic hazards of beta-Naphthylamine, including local and systemic toxicity;

(B) The specific nature of the operation involving beta-Naphthylamine which could result in exposure;

(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose for and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of beta-Naphthylamine;

(H) The purpose for and application of specific first aid procedures and practices;

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of beta-Naphthylamine in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which beta-Naphthylamine is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of beta-Naphthylamine into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph. (i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination;

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0089)

§ 1926.1110 Benzidine.

(a) *Scope and application.* (1) This section applies to any area in which Benzidine, Chemical Abstracts Service Registry Number 92875 is manufactured, processed, repackaged,

released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under paragraphs (e)(2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixutures containing less than 0.1 percent by weight or volume in Benzidine.

(b) *Definitions.* For the purposes of this section: (1) *Absolute filter* is one capable of retaining 99.97 percent of a mono dispense aerosol of 0.3 μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of Benzidine. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving Benzidine where containment prevents the release of Benzidine into regulated areas, nonregulated areas, or the external environment.

(5) *Decontamination* means the inactivation of Benzidine or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of Benzidine from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of Benzidine which may result in exposure to or contact with Benzidine.

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment of Benzidine, which is impervious to the passage of Benzidine, and which would prevent the entry of Benzidine into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving Benzidine within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) *Open-vessel system* means an operation involving Benzidine in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of Benzidine into regulated areas, nonregulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to Benzidine.

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing Benzidine.* A regulated area shall be established by an employer where Benzidine is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with Benzidine within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where Benzidine is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while Benzidine is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where Benzidine is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply. (i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in Benzidine handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1926.103. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e)(2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with Benzidine could result, each authorized employee entering that area shall: (i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with Benzidine such employee shall be required to shower as soon as possible unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f)(4).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove Benzidine from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of Benzidine and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of Benzidine and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have Benzidine contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by paragraph (e)(1) of this section shall be a minimum letter height of 2 inches (5.08 cm). Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch (2.54 cm) in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(A) The nature of the carcinogenic hazards of Benzidine, including local and systemic toxicity;

(B) The specific nature of the operation involving Benzidine which could result in exposure;

(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose for and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of Benzidine;

(H) The purpose for and application of specific first aid procedures and practices;

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change. (i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of Benzidine in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which Benzidine is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of Benzidine into any area where employees may be potentially exposed shall be reported in accordance with this paragraph. (i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0082)

§ 1926.1111 4-Aminodiphenyl.

(a) *Scope and application.* (1) This section applies to any area in which 4-Aminodiphenyl, Chemical Abstracts Service Registry Number 92671 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 0.1 percent by weight or volume of 4-Aminodiphenyl.

(b) *Definitions.* For the purposes of this section: (1) *Absolute filter* is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of 4-Aminodiphenyl. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving 4-Aminodiphenyl where containment prevents the release of 4-Aminodiphenyl into regulated areas, nonregulated area, or the external environment.

(5) *Decontamination* means the inactivation of 4-Aminodiphenyl or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of 4-Aminodiphenyl from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of 4-Aminodiphenyl which may result in exposure to or contact with 4-Aminodiphenyl.

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment of 4-Aminodiphenyl, which is imperivious to the passage of 4-Aminodiphenyl, and which would prevent the entry of 4-Aminodiphenyl into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving 4-Aminodiphenyl within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) *Open-vessel system* means an operation involving 4-Aminodiphenyl in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of 4-Aminodiphenyl into regulated areas, nonregulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to 4-Aminodiphenyl.

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing 4-Aminodiphenyl.* A regulated area shall

be established by an employer where 4-Aminodiphenyl is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with 4-Aminodiphenyl within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where 4-Aminodiphenyl is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while 4-Aminodiphenyl is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where 4-Aminodiphenyl is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in 4-Aminodiphenyl handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1926.103. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with 4-Aminodiphenyl could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air suppled hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with 4-Aminodiphenyl such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f)(4).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove 4-Aminodiphenyl from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of 4-Aminodiphenyl and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of 4-Aminodiphenyl and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have 4-Aminodiphenyl contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches (5.08 cm). Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch (2.54 cm) in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive including, but not necessarily limited to: A training and indoctrination program

(A) The nature of the carcinogenic hazards of 4-Aminodiphenyl, including local and systemic toxicity;

(B) The specific nature of the operation involving 4-Aminodiphenyl which could result in exposure;

(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose for and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 4-Aminodiphenyl;

(H) The purpose for and application of specific first aid procedures and practices;

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in this application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change. (i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of 4-Aminodiphenyl in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which 4-Aminodiphenyl is present in each regulated area; e.g. whether it is manufactured, processed, used repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of 4-Aminodiphenyl into any area where employees may be potentially exposed shall be reported in accordance with this paragraph. (i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof,

shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0090)

§ 1926.1112 Ethyleneimine.

(a) *Scope and application.* (1) This section applies to any area in which Ethyleneimine, Chemical Abstracts Service Registry Number 151564 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1.0 percent by weight or volume of Ethyleneimine.

(b) *Definitions.* For the purposes of this section: (1) *Absolute filter* is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of Ethyleneimine. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving Ethyleneimine where containment prevents the release of Ethyleneimine into regulated areas, nonregulated areas, or the external environment.

(5) *Decontamination* means the inactivation of Ethyleneimine or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of Ethyleneimine from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of Ethyleneimine which may result in exposure to or contact with Ethyleneimine.

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment of Ethyleneimine, which is impervious to the passage of Ethyleneimine, and which would prevent the entry of Ethyleneimine into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving Ethyleneimine within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) *Open-vessel system* means an operation involving Ethyleneimine in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of Ethyleneimine into regulated areas, nonregulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to Ethyleneimine.

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing Ethyleneimine.* A regulated area shall be established by an employer where Ethyleneimine is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with Ethyleneimine within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where Ethyleneimine is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while Ethyleneimine is contained within: Access shall be restricted to authorized employees only.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where Ethyleneimine is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), and gloves prior to entering the regulated area.

(iv) Employees engaged in Ethyleneimine handling operations shall be provided with and required to wear and use a full-face, supplied air respirator, of the continuous flow or pressure-demand type, in accordance with § 1926.103.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on

contaminated systems or equipment, where direct contact with Ethyleneimine could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with Ethyleneimine, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(vi) Emergency deluge showers and eyewash fountains supplied with running potable water shall be located near, within sight of, and on the same level with locations where a direct exposure of Ethyleneimine would be most likely as a result of equipment failure, or improper work practice.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(iii) Where toilets are in regulated areas, such toilets shall be in a separate room.

(iv) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(v) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f)(4).

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove Ethyleneimine from the surfaces of materials, equipment and the decontamination facility.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of Ethyleneimine and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of Ethyleneimine and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(B), and (c)(6)(viii) (B) of this section which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with paragraph (e)5 of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have Ethyleneimine contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by paragraph (e)(1) of this section shall be a minimum letter height of 2 inches (5.08 cm). Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch (2.54 cm) in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(A) The nature of the carcinogenic hazards of Ethyleneimine, including local and systemic toxicity;

(B) The specific nature of the operation involving Ethyleneimine which could result in exposure;

(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose for and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of Ethyleneimine;

(H) The purpose for and application of specific first aid procedures and practices;

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change. (i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of Ethyleneimine in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which Ethyleneimine is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of Ethyleneimine into any area where employees may be potentially exposed shall be reported in accordance with this paragraph. (i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0080)

§ 1926.1113 beta-Propiolactone.

(a) *Scope and application.* (1) This section applies to any area in which beta-Propiolactone, Chemical Abstracts Service Registry Number 57578 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to trans-shipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1.0 percent by weight or volume of beta-Propiolactone.

(b) *Definitions.* For the purposes of this section: (1) *Absolute filter* is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of beta-Propiolactone. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving beta-Propiolactone where containment prevents the release of beta-Propiolactone into regulated areas, nonregulated areas, or the external environment.

(5) *Decontamination* means the inactivation of beta-Propiolactone or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of beta-Propiolactone from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of beta-Propiolactone which may result in exposure to or contact with beta-Propiolactone.

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment of beta-Propiolactone, which is impervious to the passage of beta-Propiolactone, and which would prevent the entry of beta-Propiolactone into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute;

designed, constructed, and maintained in such a way that an operation involving beta-Propiolactone within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) *Open-vessel system* means an operation involving beta-Propiolactone in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of beta-Propiolactone into regulated areas, nonregulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to beta-Propiolactone.

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing beta-Propiolactone.* A regulated area shall be established by an employer where beta-Propiolactone is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with beta-Propiolactone within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where beta-Propiolactone is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while beta-Propiolactone is contained within. Access shall be restricted to authorized employees only.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where beta-Propiolactone is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in beta-Propiolactone handling operations shall be provided with and required to wear and use a full-face, supplied air respirator, of the continuous flow or pressure-demand type, in accordance with § 1926.103.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e)(2), (3), and (4) of this section.

(vi) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with beta-Propiolactone could result, each authorized employee entering that area shall: (i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented. (i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with beta-Propiolactone, such employee shall be required to shower soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(vi) Emergency deluge showers and eyewash fountains supplied with running potable water shall be located near, within sight of, and on the same level with locations where a direct exposure to beta-Propiolactone would be most likely as a result of equipment failure, or improper work practice.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(iii) Where toilets are in regulated areas, such toilets shall be in a separate room.

(iv) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(v) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f)(4).

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove beta-Propiolactone from the surfaces of materials, equipment and the decontamination facility.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of beta-Propiolactone and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of beta-Propiolactone and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have beta-Propiolactone contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by paragraph (e)(1) shall be a minimum letter height of 2 inches. Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(A) The nature of the carcinogenic hazards of beta-Propiolactone, including local and systemic toxicity;

(B) The specific nature of the operation involving beta-Propiolactone which could result in exposure;

(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose for and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of beta-Propiolactone;

(H) The purpose for and application of specific first aid procedures and practices;

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of beta-Propiolactone in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which beta-Propiolactone is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of beta-Propiolactone into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph. (i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those

undergoing treatment with steroids or cytotoxic agent, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0079)

§ 1926.1114 2-Acetylaminofluorene.

(a) *Scope and application.* (1) This section applies to any area in which 2-Acetylaminofluorene, Chemical Abstracts Service Registry Number 53963 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under paragraphs (e)(2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1.0 percent by weight or volume of 2-Acetylamino fluorene.

(b) *Definitions.* For the purposes of this section: (1) *Absolute filter* is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of 2-Acetylaminofluorene. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving 2-Acetylaminofluorene where containment prevents the release of 2-Acetylaminofluorene into regulated areas, nonregulated areas, or the external environment.

(5) *Decontamination* means the inactivation of 2-Acetylaminofluorene or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of 2-Acetylaminofluorene from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of 2-Acetylaminofluorene which may result in exposure to or contact with 2-Acetylaminofluorene.

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment of 2-Acetylaminofluorene, which is impervious to the passage of 2-Acetylaminofluorene, and which would prevent the entry of 2-Acetylaminofluorene into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving 2-Acetylaminoflourene within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) *Open-vessel system* means an operation involving 2-Acetylaminofluorene in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of 2-Acetylaminofluorene into regulated areas, nonregulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to 2-Acetylaminofluorene.

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing 2-Acetylaminofluorene.* A regulated area shall be established by an employer where 2-Acetylaminofluorene is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance wtih the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with 2-Acetylaminofluorene within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where 2-Acetylaminofluorene is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while 2-Acetylaminofluorene is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where 2-Acetylaminofluorene is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and

pants), shoe covers and gloves prior to entering the regulated area.

(iv) Employees engaged in 2-Acetylaminofluorene handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1926.103. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e)(2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with 2-Acetylaminofluorene could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with apragraph (f)(2) of this section.

(iv) Where an employee has a known contact with 2-Acetylaminofluorene, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f)(4).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove 2-Acetylaminofluorene from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of 2-Acetylaminofluorene and containers required under paragraphs (c)(4)(v) and (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section, may have contents identification, limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of 2-Acetylaminofluorene and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible to, or handled by, employees other than authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have 2-Acetylaminofluorene contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) shall be a minimum letter height of 2 inches (5.08 cm). Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance; *Provided,* That no such required lettering need be more than 1 inch (2.54 cm) in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(A) The nature of the carcinogenic hazards of 2-Acetylaminofluorene, including local and systemic toxicity;

(B) The specific nature of the operation involving 2-Acetylaminofluorene which could result in exposure;

(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose for and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 2-Acetylaminofluorene;

(H) The purpose for and application of specific first aid procedures and practices;

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees, shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of 2-Acetylaminofluorene in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which 2-Acetylaminofluorene is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of 2-Acetylaminofluorene into any area where employees may be potentially exposed shall be reported in accordance with this subparagraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0088)

§ 1926.1115 4-Dimethylaminoazobenzene.

(a) *Scope and application.* (1) This section applies to any area in which 4-Dimethylaminoazobenzene, Chemical Abstracts Service Registry Number 60117 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1.0 percent by weight or volume of 4-Dimethylaminoazobenzene.

(b) *Definitions.* For the purposes of this section: (1) *Absolute filter* is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of 4-Dimethylaminoazobenzene. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving 4-Dimeth- ylaminoazobenzene where containment prevents the release of 4-Dimethylaminoazobenzene into regulated areas, nonregulated areas, or the external environment.

(5) *Decontamination* means the inactivation of 4-Dimethylaminoazobenzene or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of 4-Dimethylaminoazobenzene from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of 4-Dimethylaminoazobenzene which may result in exposure to or contact with 4-Dimethylaminoazobenzene.

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment of 4-Dimethylaminoazobenzene, which is impervious to the passage of 4-Dimethylaminoazobenzene which would prevent the entry of 4-Dimethylaminoazobenzene into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving 4-Dimethylaminoazobenzene within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer where entry and exit is neither restricted nor controlled.

(13) *Open-vessel system* means an operation involving 4-Dimethylaminoazobenzene in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of 4-Dimethylaminoazobenzene into regulated areas, nonregulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to 4-Dimethylaminoazobenzene.

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing 4-Dimethylaminoazobenzene.* A regulated area shall be established by an employer where 4-Dimethylaminoazobenzene is manufactured, processed, used, repackaged, released, handled or stored. All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with 4-Dimethylaminoazobenzene within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where 4-Dimethylaminoazobenzene is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while 4-Dimethylaminoazobenzene is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where 4-Dimethylaminoazobenzene is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers, and gloves prior to entering the regulated area.

(iv) Employees engaged in 4-Dimethylaminoazobenzene handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1926.103. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e) (2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exist of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with 4-Dimethylaminoazobenzene could result, each authorized employee entering that area shall: (i) Be provided with and required to wear clear, impervious garments, including gloves, boots and continuous-air supplied hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented. (i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with 4-Dimethylaminoazobenzene, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with 1926.51(f)(4).

(iv) Where employees wear protective clothing and equipment clean change room shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean makeup air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove 4-Dimethylaminoazobenzene from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of 4-Dimethylaminoazobenzene and containers required under paragraph (c)(4)(v) and (c)(6)(vii) (B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of 4-Dimethylaminoazobenzene and containers required under paragraphs (c)(4)(v), (c)(6)(vii) (B), and (c)(6)(viii)(B) of this section which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (a)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have 4-Dimethylaminoazobenzene contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by subparagraph (1) of this paragraph shall be a minimum letter height of 2 inches (5.08 cm). Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch (2.54 cm) in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(A) The nature of the carcinogenic hazards of 4-Dimethylamino-azobenzene, including local and sytemic toxicity;

(B) The specific nature of the operation involving 4-Dimethylaminoazo-benzene which could result in exposure;

(C) The purpose for the application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose for and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of 4-Dimethylaminoazobenzene;

(H) The purpose for and application of specific first aid procedures and practices;

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of 4-Dimethylaminoazobenzene in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which 4-Dimethyaminoazobenzene is present in each regulated area; e.g. whether it is

manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of 4-Dimethylaminoazobenzene into any area where employees may be potentially exposed shall be reported in accordance with this paragraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examination, the examing physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examination. Records shall be maintained for the duration of the employee's employment. Upon termination of the employee's employment, including retirement or death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0044)

§ 1926.1116 N-Nitrosodimethylamine.

(a) *Scope and application.* (1) This section applies to any area in which N-Nitrosodimethylamine, Chemical Abstracts Service Registry Number 62759 is manufactured, processed, repackaged, released, handled, or stored, but shall not apply to transshipment in sealed containers, except for the labeling requirements under paragraphs (e) (2), (3), and (4) of this section.

(2) This section shall not apply to solid or liquid mixtures containing less than 1.0% by weight or volume of N-Nitrosodimethylamine.

(b) *Definitions.* For the purposes of this section: (1) *Absolute filter* is one capable of retaining 99.97 percent of a mono disperse aerosol of 0.3 μm particles.

(2) *Authorized employee* means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer.

(3) *Clean change room* means a room where employees put on clean clothing and/or protective equipment in an environment free of N-Nitrosodimethylamine. The clean change room shall be contiguous to and have an entry from a shower room, when the shower room facilities are otherwise required in this section.

(4) *Closed system* means an operation involving N-Nitrosodimethyl- amine where containment prevents the release of N-Nitrosodimethylamine into regulated areas, nonregulated areas, or the external environment.

(5) *Decontamination* means the inactivation of N-Nitrosodimethylamine or its safe disposal.

(6) *Director* means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health and Human Services to act for the Director.

(7) *Disposal* means the safe removal of N-Nitrosodimethylamine from the work environment.

(8) *Emergency* means an unforeseen circumstance or set of circumstances resulting in the release of N-Nitrosodimethylamine which may result in exposure to or contact with N-Nitrosodimethylamine.

(9) *External environment* means any environment external to regulated and nonregulated areas.

(10) *Isolated system* means a fully enclosed structure other than the vessel of containment of N-Nitrosodimethylamine, which is impervious to the passage of N-Nitrosodimethylamine, and which would prevent the entry of N-Nitrosodimethylamine into regulated areas, nonregulated areas, or the external environment, should leakage or spillage from the vessel of containment occur.

(11) *Laboratory type hood* is a device enclosed on three sides and the top and bottom, designed and maintained so as to draw air inward at an average linear face velocity of 150 feet per minute with a minimum of 125 feet per minute; designed, constructed, and maintained in such a way that an operation involving N-Nitrosodimeth-ylamine within the hood does not require the insertion of any portion of any employee's body other than his hands and arms.

(12) *Nonregulated area* means any area under the control of the employer where entry and exit is neither restriced nor controlled.

(13) *Open-vessel system* means an operation involving N-Nitrosodimethylamine in an open vessel, which is not in an isolated system, a laboratory type hood, nor in any other system affording equivalent protection against the entry of N-Nitrosodimethylamine into regulated areas, nonregulated areas, or the external environment.

(14) *Protective clothing* means clothing designed to protect an employee against contact with or exposure to N-Nitrosodimethylamine.

(15) *Regulated area* means an area where entry and exit is restricted and controlled.

(c) *Requirements for areas containing N-Nitrosodimethylamine.* A regulated area shall be established by an employer where N-Nitrosodimethylamine is manufactured, processed, used, repackaged, released, handled or stored.

All such areas shall be controlled in accordance with the requirements for the following category or categories describing the operation involved:

(1) *Isolated systems.* Employees working with N-Nitrosodimethylamine within an isolated system, such as a "glove box" shall wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.

(2) *Closed system operation.* Within regulated areas where N-Nitrosodimethylamine is stored in sealed containers, or contained in a closed system, including piping systems, with any sample ports or openings closed while N-Nitrosodimethylamine is contained within:

(i) Access shall be restricted to authorized employees only;

(ii) Employees shall be required to wash hands, forearms, face and neck upon each exit from the regulated areas, close to the point of exit and before engaging in other activities.

(3) *Open vessel system operations.* Open vessel system operations as defined in paragraph (b)(13) of this section are prohibited.

(4) *Transfer from a closed system, charging or discharging point operations, or otherwise opening a closed system.* In operations involving "laboratory type hoods," or in locations where N-Nitrosodimethylamine is contained in an otherwise "closed system," but is transferred, charged, or discharged into other normally closed containers, the provisions of this subparagraph shall apply.

(i) Access shall be restricted to authorized employees only;

(ii) Each operation shall be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation. Exhaust air shall not be discharged to regulated areas, nonregulated areas or the external environment unless decontaminated. Clean makeup air shall be introduced in sufficient volume to maintain the correct operation of the local exhaust system.

(iii) Employees shall be provided with, and required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers, and gloves prior to entering the regulated area.

(iv) Employees engaged in N-Nitrosodimethylamine handling operations shall be provided with and required to wear and use a half-face, filter-type respirator for dusts, mists, and fumes, in accordance with § 1926.103. A respirator affording higher levels of protection may be substituted.

(v) Prior to each exit from a regulated area, employees shall be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers shall be identified, as required under paragraphs (e)(2), (3), and (4) of this section.

(vi) Employees shall be required to wash hands, forearms, face and neck on each exit from the regulated area, close to the point of exit, and before engaging in other activities.

(vii) Employees shall be required to shower after the last exit of the day.

(viii) Drinking fountains are prohibited in the regulated area.

(5) *Maintenance and decontamination activities.* In cleanup of leaks or spills, maintenance or repair operations on contaminated systems or equipment, where direct contact with N-Nitrosodimethylamine could result, each authorized employee entering that area shall:

(i) Be provided with and required to wear clean, impervious garment, including gloves, boots and continuous-air supplied hood in accordance with § 1926.103.

(ii) Be decontaminated before removing the protective garments and hood;

(iii) Be required to shower upon removing the protective garments and hood.

(d) *General regulated area requirements.*

(1) [Reserved]

(2) *Emergencies.* In an emergency, immediate measures including, but not limited to, the requirements of paragraphs (d)(2) (i), (ii), (iii), (iv), and (v) of this section shall be implemented.

(i) The potentially affected area shall be evacuated as soon as the emergency has been determined.

(ii) Hazardous conditions created by the emergency shall be eliminated and the potentially affected area shall be decontaminated prior to the resumption of normal operations.

(iii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the potentially affected area at the time of the emergency. A report of the medical surveillance and any treatment shall be included in the incident report, in accordance with paragraph (f)(2) of this section.

(iv) Where an employee has a known contact with N–Nitrosodimethylamine, such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(v) An incident report on the emergency shall be reported as provided in paragraph (f)(2) of this section.

(3) *Hygiene facilities and practices.* (i) Storage or consumption of food, storage or use of containers of beverages, storage or application of cosmetics, smoking, storage of smoking materials, tobacco products or other products for chewing, or the chewing of such products, are prohibited in regulated areas.

(ii) Where employees are required by this section to wash, washing facilities shall be provided in accordance with § 1926.51(f) (2) and (3).

(iii) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1926.51(f)(4).

(iv) Where employees wear protective clothing and equipment clean change rooms shall be provided, in accordance with § 1926.51(i), for the number of such employees required to change clothes.

(v) Where toilets are in regulated areas, such toilets shall be in a separate room.

(4) *Contamination control.* (i) Regulated areas, except for outdoor systems, shall be maintained under pressure negative with respect to nonregulated areas. Local exhaust ventilation may be used to satisfy this requirement. Clean make-up air in equal volume shall replace air removed.

(ii) Any equipment, material, or other item taken into or removed from a regulated area shall be done so in a manner that does not cause contamination in nonregulated areas or the external environment.

(iii) Decontamination procedures shall be established and implemented to remove N-Nitrosodimethylamine from the surfaces of materials, equipment and the decontamination facility.

(iv) Dry sweeping and dry mopping are prohibited.

(e) *Signs, information and training*—(1) *Signs.* (i) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT

AUTHORIZED PERSONNEL ONLY

(ii) Entrances to regulated areas containing operations covered in paragraph (c)(5) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT EXPOSED IN THIS AREA

IMPERVIOUS SUIT INCLUDING GLOVES, BOOTS, AND AIR-SUPPLIED HOOD REQUIRED AT ALL TIMES

AUTHORIZED PERSONNEL ONLY

(iii) Appropriate signs and instructions shall be posted at the entrance to, and exit from, regulated areas, informing employees of the procedures that must be followed in entering and leaving a regulated area.

(2) *Container contents identification.* (i) Containers of N-Nitrosodimethylamine and containers required under paragraphs (c)(4)(v) and (c)(6)(vii) (B), and (c)(6)(viii)(B) of this section which are accessible only to, and handled only by, authorized employees, or by other employees trained in accordance with paragraph (e)(5) of this section, may have contents identification limited to a generic or proprietary name, or other proprietary identification, of the carcinogen and percent.

(ii) Containers of N-Nitrosodimethylamine and containers required under paragraphs (c)(4)(v), (c)(6)(vii)(B), and (c)(6)(viii)(B) of this section which are accessible to, or handled by employees other than authorized employees or employees trained in accordance with paragraph (e)(5) of this section shall have contents identification which includes the full chemical name and Chemical Abstracts Service Registry number as listed in paragraph (c)(1) of this section.

(iii) Containers shall have the warning words "CANCER-SUSPECT AGENT" displayed immediately under or adjacent to the contents identification.

(iv) Containers which have N-Nitrosodimethylamine contents with corrosive or irritating properties shall have label statements warning of such hazards, noting, if appropriate, particularly sensitive or affected portions of the body.

(3) *Lettering.* Lettering on signs and instructions required by paragraph (e)(1) of this section shall be a minimum letter height of 2 inches (5.08 cm). Labels on containers required under this section shall not be less than ½ the size of the largest lettering on the package, and not less than 8 point type in any instance: *Provided,* That no such required lettering need be more than 1 inch (2.54 cm) in height.

(4) *Prohibited statements.* No statement shall appear on or near any required sign, label, or instruction which contradicts or detracts from the effect of any required warning, information or instruction.

(5) *Training and indoctrination.* (i) Each employee prior to being authorized to enter a regulated area, shall receive a training and indoctrination program including, but not necessarily limited to:

(A) The nature of the carcinogenic hazards of N-Nitrosodimethylamine, including local and systemic toxicity;

(B) The specific nature of the operation involving N-Nitrosodimethylamine which could result in exposure;

(C) The purpose for and application of the medical surveillance program, including, as appropriate, methods of self-examination;

(D) The purpose of and application of decontamination practices and purposes;

(E) The purpose for and significance of emergency practices and procedures;

(F) The employee's specific role in emergency procedures;

(G) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of N-Nitrosodimethylamine;

(H) The purpose for and application of specific first aid procedures and practices.

(I) A review of this section at the employee's first training and indoctrination program and annually thereafter.

(ii) Specific emergency procedures shall be prescribed, and posted, and employees shall be familiarized with their terms, and rehearsed in their application.

(iii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(f) *Reports*—(1) *Operations.* Not later than March 1, 1974, the information required in paragraphs (f)(1) (i), (ii), (iii), and (iv) of this section shall be reported in writing to the nearest OSHA Area Director. Any changes in such information shall be similarly reported in writing within 15 calendar days of such change.

(i) A brief description and in-plant location of the area(s) regulated and the address of each regulated area;

(ii) The name(s) and other identifying information as to the presence of N-Nitrosodimethylamine in each regulated area;

(iii) The number of employees in each regulated area, during normal operations including maintenance activities; and

(iv) The manner in which N-Nitrosodimethylamine is present in each regulated area; e.g. whether it is manufactured, processed, used, repackaged, released, stored, or otherwise handled.

(2) *Incidents.* Incidents which result in the release of N-Nitrosodimethylamine into any area where employees may be potentially exposed shall be reported in accordance with this paragraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the nearest OSHA Area Director.

(ii) A written report shall be filed with the nearest OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released, the amount of time involved, and an explanation of the procedure used in determining this figure;

(B) A description of the area involved, and the extent of known and possible employee exposure and area contamination; and

(C) A report of any medical treatment of affected employees, and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(g) *Medical surveillance.* At no cost to the employee, a program of medical surveillance shall be established and implemented for employees considered for assignment to enter regulated areas, and for authorized employees.

(1) *Examinations.* (i) Before an employee is assigned to enter a regulated area, a preassignment physical examination by a physician shall be provided. The examination shall include the personal history of the employee, family and occupational background, including genetic and environmental factors.

(ii) Authorized employees shall be provided periodic physical examinations, not less often than annually, following the preassignment examination.

(iii) In all physical examinations, the examining physician shall consider whether there exist conditions of increased risk, including reduced immunological competence, those undergoing treatment with steroids or cytotoxic agents, pregnancy and cigarette smoking.

(2) *Records.* (i) Employers of employees examined pursuant to this paragraph shall cause to be maintained complete and accurate records of all such medical examinations. Records shall be maintained for the duration of the employee's employment. Upon termination of an employee's employment, including retirement or

death, or in the event that the employer ceases business without a successor, records, or notarized true copies thereof, shall be forwarded by registered mail to the Director.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i). These records shall also be provided upon request to the Director.

(iii) Any physician who conducts a medical examination required by this paragraph shall furnish to the employer a statement of the employee's suitability for employment in the specific exposure.

(Approved by the Office of Management and Budget under control number 1218–0081)

§ 1926.1117 Vinyl chloride.

(a) *Scope and application.* (1) This section includes requirements for the control of employee exposure to vinyl chloride (chloroethene), Chemical Abstracts Service Registry No. 75014.

(2) This section applies to the manufacture, reaction, packaging, repackaging, storage, handling or use of vinyl chloride or polyvinyl chloride, but does not apply to the handling or use of fabricated products made of polyvinyl chloride.

(3) This section applies to the transportation of vinyl chloride or polyvinyl chloride except to the extent that the Department of Transportation may regulate the hazards covered by this section.

(b) *Definitions.* (1) *Action level* means a concentration of vinyl chloride of 0.5 ppm averaged over an 8-hour work day.

(2) *Assistant Secretary* means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or his designee.

(3) *Authorized person* means any person specifically authorized by the employer whose duties require him to enter a regulated area or any person entering such an area as a designated representative of employees for the purpose of exercising an opportunity to observe monitoring and measuring procedures.

(4) *Director* means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services or his designee.

(5) *Emergency* means any occurrence such as, but not limited to, equipment failure, or operation of a relief device which is likely to, or does, result in massive release of vinyl chloride.

(6) *Fabricated product* means a product made wholly or partly from polyvinyl chloride, and which does not require further processing at temperatures, and for times, sufficient to cause mass melting of the polyvinyl chloride resulting in the release of vinyl chloride.

(7) *Hazardous operation* means any operation, procedure, or activity where a release of either vinyl chloride liquid or gas might be expected as a consequence of the operation or because of an accident in the operation, which would result in an employee exposure in excess of the permissible exposure limit.

(8) *OSHA Area Director* means the Director for the Occupational Safety and Health Administration Area Office having jurisdiction over the geographic area in which the employer's establishment is located.

(9) *Polyvinyl chloride* means polyvinyl chloride homopolymer or copolymer before such is converted to a fabricated product.

(10) *Vinyl chloride* means vinyl chloride monomer.

(c) *Permissible exposure limit.* (1) No employee may be exposed to vinyl chloride at concentrations greater than 1 ppm averaged over any 8-hour period, and

(2) No employee may be exposed to vinyl chloride at concentrations greater than 5 ppm averaged over any period not exceeding 15 minutes.

(3) No employee may be exposed to vinyl chloride by direct contact with liquid vinyl chloride.

(d) *Monitoring.* (1) A program of initial monitoring and measurement shall be undertaken in each establishment to determine if there is any employee exposed, without regard to the use of respirators, in excess of the action level.

(2) Where a determination conducted under paragraph (d)(1) of this section shows any employee exposures, without regard to the use of respirators, in excess of the action level, a program for determining exposures for each such employee shall be established. Such a program:

(i) Shall be repeated at least monthly where any employee is exposed, without regard to the use of respirators, in excess of the permissible exposure limit.

(ii) Shall be repeated not less than quarterly where any employee is exposed, without regard to the use of respirators, in excess of the action level.

(iii) May be discontinued for any employee only when at least two consecutive monitoring determinations, made not less than 5 working days apart, show exposures for that employee at or below the action level.

(3) Whenever there has been a production, process or control change which may result in an increase in the release of vinyl chloride, or the employer has any other reason to suspect that any employee may be exposed in excess of the action level, a determination of employee exposure under paragraph (d)(1) of this section shall be performed.

(4) The method of monitoring and measurement shall have an accuracy (with a confidence level of 95 percent) of not less than plus or minus 50 percent from 0.25 through 0.5 ppm, plus or minus 35 percent from over 0.5 ppm through 1.0 ppm, and plus or minus 25 percent over 1.0 ppm. (Methods meeting these accuracy requirements are available in the "NIOSH Manual of Analytical Methods").

(5) Employees or their designated representatives shall be afforded reasonable opportunity to observe the monitoring and measuring required by this paragraph.

(e) *Regulated area.* (1) A regulated area shall be established where:

(i) Vinyl chloride or polyvinyl chloride is manufactured, reacted, repackaged, stored, handled or used; and

(ii) Vinyl chloride concentrations are in excess of the permissible exposure limit.

(2) Access to regulated areas shall be limited to authorized persons.

(f) *Methods of compliance.* Employee exposures to vinyl chloride shall be controlled to at or below the permissible exposure limit provided in paragraph (c) of this section by engineering, work practice, and personal protective controls as follows:

(1) Feasible engineering and work practice controls shall immediately be used to reduce exposures to at or below the permissible exposure limit.

(2) Wherever feasible engineering and work practice controls which can be instituted immediately are not sufficient to reduce exposures to at or below the permissible exposure limit, they shall nonetheless be used to reduce exposures to the lowest practicable level, and shall be supplemented by respiratory protection in accordance with paragraph (g) of this section. A program shall be established and implemented to reduce exposures to at or below the permissible exposure limit, or to the greatest extent feasible, solely by means of engineering and work practice controls, as soon as feasible.

(3) Written plans for such a program shall be developed and furnished upon request for examination and copying to authorized representatives of the Assistant Secretary and the Director.

Such plans shall be updated at least every six months.

(g) *Respiratory protection.* Where respiratory protection is required under this section:

(1) The employer shall provide a respirator which meets the requirements of this paragraph and shall assure that the employee uses such respirator, except that until April 1, 1976, wearing of respirators shall be at the discretion of each employee for exposures not in excess of 25 ppm, measured over any 15-minute period. Until April 1, 1976, each employee who chooses not to wear an appropriate respirator shall be informed at least quarterly of the hazards of vinyl chloride and the purpose, proper use, and limitations of respiratory devices.

(2) Respirators shall be selected from among those jointly approved by the Mining Enforcement and Safety Administration, Department of the Interior, and the National Institute for Occupational Safety and Health under the provisions of 30 CFR part 11.

(3) A respiratory protection program meeting the requirements of § 1926.103 shall be established and maintained.

(4) Selection of respirators for vinyl chloride shall be as follows:

Atmospheric concentration of vinyl chloride	Required apparatus
(i) Unknown, or above 3,600 p/m	Open-circuit, self-contained breathing apparatus, pressure demand type, with full facepiece.
(ii) Not over 3,600 p/m	(A) Combination type C supplied air respirator, pressure demand type, with full or half facepiece, and auxiliary self-contained air supply; or
(iii) Not over 1,000 p/m	(B) Combination type, supplied air respirator continuous flow type, with full or half facepiece, and auxiliary self-contained air supply. Type C, supplied air respirator, continuous flow type, with full or half facepiece, helmet or hood.
(iv) Not over 100 p/m	(A) Combination type C supplied air respirator demand type, with full facepiece, and auxiliary self-contained air supply; or (B) Open-circuit self-contained breathing apparatus with full facepiece, in demand mode; or (C) Type C supplied air respirator, demand type, with full facepiece.
(v) Not over 25 p/m	(A) A powered air-purifying respirator with hood, helmet, full or half facepiece, and a canister which provides a service life of at least 4 hours for concentrations of vinyl chloride up to 25 p/m, or (B) Gas mask, front- or back-mounted canister which provides a service life of at least 4 hours for concentrations of vinyl chloride up to 25 p/m.
(vi) Not over 10 p/m	(A) Combination type C supplied-air respirator, demand type, with half facepiece, and auxiliary self-contained air supply; or (B) Type C supplied-air respirator, demand type, with half facepiece; or (C) Any chemical cartridge respirator with an organic vapor cartridge which provides a service life of at least 1 hour for concentrations of vinyl chloride up to 10 p/m.

(5)(i) Entry into unknown concentrations or concentrations greater than 36,000 ppm (lower explosive limit) may be made only for purposes of life rescue; and

(ii) Entry into concentrations of less than 36,000 ppm, but greater than 3,600 ppm may be made only for purposes of life rescue, firefighting, or securing equipment so as to prevent a greater hazard from release of vinyl chloride.

(6) Where air-purifying respirators are used:

(i) Air-purifying cannisters or cartridges shall be replaced prior to the expiration of their service life or the end of the shift in which they are first used, whichever occurs first, and

(ii) A continuous monitoring and alarm system shall be provided where concentrations of vinyl chloride could reasonably exceed the allowable concentrations for the devices in use. Such system shall be used to alert employees when vinyl chloride concentrations exceed the allowable concentrations for the devices in use.

(7) Apparatus prescribed for higher concentrations may be used for any lower concentration.

(h) *Hazardous operations.* (1) Employees engaged in hazardous operations, including entry of vessels to clean polyvinyl chloride residue from vessel walls, shall be provided and required to wear and use;

(i) Respiratory protection in accordance with paragraphs (c) and (g) of this section; and

(ii) Protective garments to prevent skin contact with liquid vinyl chloride or with polyvinyl chloride residue from vessel walls. The protective garments shall be selected for the operation and its possible exposure conditions.

(2) Protective garments shall be provided clean and dry for each use.

(i) *Emergency situations.* A written operational plan for emergency situations shall be developed for each facility storing, handling, or otherwise using vinyl chloride as a liquid or compressed gas. Appropriate portions of the plan shall be implemented in the event of an emergency. The plan shall specifically provide that:

(1) Employees engaged in hazardous operations or correcting situations of existing hazardous releases shall be equipped as required in paragraph (h) of this section;

(2) Other employees not so equipped shall evacuate the area and not return until conditions are controlled by the methods required in paragraph (f) of this section and the emergency is abated.

(j) *Training.* Each employee engaged in vinyl chloride or polyvinyl chloride operations shall be provided training in a program relating to the hazards of vinyl chloride and precautions for its safe use.

(1) The program shall include:

(i) The nature of the health hazard from chronic exposure to vinyl chloride including specifically the carcinogenic hazard;

(ii) The specific nature of operations which could result in exposure to vinyl chloride in excess of the permissible limit and necessary protective steps;

(iii) The purpose for, proper use, and limitations of respiratory protective devices;

(iv) The fire hazard and acute toxicity of vinyl chloride, and the necessary protective steps;

(v) The purpose for and a description of the monitoring program;

(vi) The purpose for, and a description of, the medical surveillance program;

(vii) Emergency procedures;

(viii) Specific information to aid the employee in recognition of conditions which may result in the release of vinyl chloride; and

(ix) A review of this standard at the employee's first training and indoctrination program, and annually thereafter.

(2) All materials relating to the program shall be provided upon request to the Assistant Secretary and the Director.

(k) *Medical surveillance.* A program of medical surveillance shall be instituted for each employee exposed, without regard to the use of respirators, to vinyl chloride in excess of the action level. The program shall provide each such employee with an opportunity for examinations and tests in accordance with this paragraph. All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee.

(1) At the time of initial assignment, or upon institution of medical surveillance;

(i) A general physical examination shall be performed, with specific attention to detecting enlargement of liver, spleen or kidneys, or dysfunction in these organs, and for abnormalities in skin, connective tissues and the pulmonary system (See Appendix A).

(ii) A medical history shall be taken, including the following topics:

(A) Alcohol intake;

(B) Past history of hepatitis;

(C) Work history and past exposure to potential hepatotoxic agents, including drugs and chemicals;

(D) Past history of blood transfusions; and

(E) Past history of hospitalizations.

(iii) A serum specimen shall be obtained and determinations made of:

(A) Total bilirubin;

(B) Alkaline phosphatase;

(C) Serum glutamic oxalacetic transaminase (SGOT);

(D) Serum glutamic pyruvic transaminase (SGPT); and

(E) Gamma glustamyl transpeptidase.

(2) Examinations provided in accordance with this paragraph shall be performed at least:

(i) Every 6 months for each employee who has been employed in vinyl chloride or polyvinyl chloride manufacturing for 10 years or longer; and

(ii) Annually for all other employees.

(3) Each employee exposed to an emergency shall be afforded appropriate medical surveillance.

(4) A statement of each employee's suitability for continued exposure to vinyl chloride including use of protective equipment and respirators, shall be obtained from the examining physician promptly after any examination. A copy of the physician's statement shall be provided each employee.

(5) If any employee's health would be materially impaired by continued exposure, such employee shall be withdrawn from possible contact with vinyl chloride.

(6) Laboratory analyses for all biological specimens included in medical examinations shall be performed in laboratories licensed under 42 CFR part 74.

(7) If the examining physician determines that alternative medical examinations to those required by paragraph (k)(1) of this section will provide at least equal assurance of detecting medical conditions pertinent to the exposure to vinyl chloride, the employer may accept such alternative examinations as meeting the requirements of paragraph (k)(1) of this section, if the employer obtains a statement from the examining physician setting forth the alternative examinations and the rationale for substitution. This statement shall be available upon request for examination and copying to authorized representatives of the Assistant Secretary and the Director.

(l) *Signs and labels.* (1) Entrances to regulated areas shall be posted with legible signs bearing the legend:

CANCER-SUSPECT AGENT AREA
AUTHORIZED PERSONNEL ONLY

(2) Areas containing hazardous operations or where an emergency currently exists shall be posted with legible signs bearing the legend:

CANCER-SUSPECT AGENT IN THIS AREA
PROTECTIVE EQUIPMENT REQUIRED
AUTHORIZED PERSONNEL ONLY

(3) Containers of polyvinyl chloride resin waste from reactors or other waste contaminated with vinyl chloride shall be legibly labeled:

CONTAMINATED WITH VINYL CHLORIDE

CANCER-SUSPECT AGENT

(4) Containers of polyvinyl chloride shall be legibly labeled:

POLYVINYL CHLORIDE (OR TRADE NAME)

CONTAINS

VINYL CHLORIDE

VINYL CHLORIDE IS A CANCER-SUSPECT AGENT

(5) Containers of vinyl chloride shall be legibly labeled either:

(i)

VINYL CHLORIDE

EXTREMELY FLAMMABLE GAS UNDER PRESSURE

CANCER SUSPECT AGENT

or (ii) In accordance with 49 CFR parts 170 through 189, with the additional legend:

CANCER-SUSPECT AGENT

applied near the label or placard.

(6) No statement shall appear on or near any required sign, label or instruction which contradicts or detracts from the effect of, any required warning, information or instruction.

(m) *Records.* (1) All records maintained in accordance with this section shall include the name and social security number of each employee where relevant.

(2) Records of required monitoring and measuring and medical records shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a) through (e) and (g) through (i). These records shall be provided upon request to the Director. Authorized personnel rosters shall also be provided upon request to the Assistant Secretary and the Director.

(i) Monitoring and measuring records shall:

(A) State the date of such monitoring and measuring and the concentrations determined and identify the instruments and methods used;

(B) Include any additional information necessary to determine individual employee exposures where such exposures are determined by means other than individual monitoring of employees; and

(C) Be maintained for not less than 30 years.

(ii) [Reserved]

(iii) Medical records shall be maintained for the duration of the employment of each employee plus 20 years, or 30 years, whichever is longer.

(3) In the event that the employer ceases to do business and there is no successor to receive and retain his records for the prescribed period, these records shall be transmitted by registered mail to the Director, and each employee individually notified in writing of this transfer. The employer shall also comply with any additional requirements set forth in 29 CFR 1926.33(h).

(n) *Reports.* (1) Not later than 1 month after the establishment of a regulated area, the following information shall be reported to the OSHA Area Director. Any changes to such information shall be reported within 15 days.

(i) The address and location of each establishment which has one or more regulated areas; and

(ii) The number of employees in each regulated area during normal operations, including maintenance.

(2) Emergencies, and the facts obtainable at that time, shall be reported within 24 hours to the OSHA Area Director. Upon request of the Area Director, the employer shall submit additional information in writing relevant to the nature and extent of employee exposures and measures taken to prevent future emergencies of similar nature.

(3) Within 10 working days following any monitoring and measuring which discloses that any employee has been exposed, without regard to the use of respirators, in excess of the permissible exposure limit, each such employee shall be notified in writing of the results of the exposure measurement and the steps being taken to reduce the exposure to within the permissible exposure limit.

(Approved by the Office of Management and Budget under control number 1218—0010)

Appendix A to § 1926.1117—Supplementary Medical Information

When required tests under paragraph (k)(1) of this section show abnormalities, the tests should be repeated as soon as practicable, preferably within 3 to 4 weeks. If tests remain abnormal, consideration should be given to withdrawal of the employee from contact with vinyl chloride, while a more comprehensive examination is made.

Additional tests which may be useful:

A. For kidney dysfunction: urine examination for albumin, red blood cells, and exfoliative abnormal cells.

B. Pulmonary system: Forced vital capacity, Forced expiratory volume at 1 second, and chest roentgenogram (posterior-anterior, 14 × 17 inches (35.56 × 43.18 cm)).

C. Additional serum tests: Lactic acid dehydrogenase, lactic acid dehydrogenase isoenzyme, protein determination, and protein electrophoresis.

D. For a more comprehensive examination on repeated abnormal serum tests: Hepatitis B antigen, and liver scanning.

§ 1926.1118 Inorganic arsenic.

(a) *Scope and application.* This section applies to all occupational exposures to inorganic arsenic except that this section does not apply to employee exposures in agriculture or resulting from pesticide application, the treatment of wood with preservatives or the utilization of arsenically preserved wood.

(b) *Definitions. Action level* means a concentration of inorganic arsenic of 5 micrograms per cubic meter of air (5 $\mu g/m^3$) averaged over any eight (8) hour period.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

Authorized person means any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures under paragraph (e) of this section.

Director means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services or designee.

Inorganic arsenic means copper aceto-arsenite and all inorganic compounds containing arsenic except arsine, measured as arsenic (As).

(c) *Permissible exposure limit.* The employer shall assure that no employee is exposed to inorganic arsenic at concentrations greater than 10 micrograms per cubic meter of air (10 $\mu g/m^3$), averaged over any 8-hour period.

(d) *Notification of use.* (1) By October 1, 1978 or within 60 days after the introduction of inorganic arsenic into the workplace, every employer who is required to establish a regulated area in his workplaces shall report in writing to the OSHA area office for each such workplace:

(i) The address of each such workplace;

(ii) The approximate number of employees who will be working in regulated areas; and

(iii) A brief summary of the operations creating the exposure and the actions which the employer intends to take to reduce exposures.

(2) Whenever there has been a significant change in the information required by paragraph (d)(1) of this section the employer shall report the changes in writing within 60 days to the OSHA area office.

(e) *Exposure monitoring*—(1) *General.* (i) Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to inorganic arsenic over an eight (8) hour period.

(ii) For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.

(iii) The employer shall collect full shift (for at least 7 continuous hours) personal samples including at least one sample for each shift for each job classification in each work area.

(2) *Initial monitoring.* Each employer who has a workplace or work operation covered by this standard shall monitor each such workplace and work operation to accurately determine the airborne concentration of inorganic arsenic to which employees may be exposed.

(3) *Frequency.* (i) If the initial monitoring reveals employee exposure to be below the action level the measurements need not be repeated except as otherwise provided in paragraph (e)(4) of this section.

(ii) If the initial monitoring, required by this section, or subsequent monitoring reveals employee exposure to be above the permissible exposure limit, the employer shall repeat monitoring at least quarterly.

(iii) If the initial monitoring, required by this section, or subsequent monitoring reveals employee exposure to be above the action level and below the permissible exposure limit the employer shall repeat monitoring at least every six months.

(iv) The employer shall continue monitoring at the required frequency until at least two consecutive measurements, taken at least seven (7) days apart, are below the action level at which time the employer may discontinue monitoring for that employee until such time as any of the events in paragraph (e)(4) of this section occur.

(4) *Additional monitoring.* Whenever there has been a production, process, control or personal change which may result in new or additional exposure to inorganic arsenic, or whenever the employer has any other reason to suspect a change which may result in new or additional exposures to inorganic arsenic, additional monitoring which complies with paragraph (e) of this section shall be conducted.

(5) *Employee notification.* (i) Within five (5) working days after the receipt of monitoring results, the employer shall notify each employee in writing of the results which represent that employee's exposures.

(ii) Whenever the results indicate that the representative employee exposure exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action taken to reduce exposure to or below the permissible exposure limit.

(6) *Accuracy of measurement.* (i) The employer shall use a method of monitoring and measurement which has an accuracy (with a confidence level of 95 percent) of not less than plus or minus 25 percent for concentrations of

inorganic arsenic greater than or equal to 10 µg/m³.

(ii) The employer shall use a method of monitoring and measurement which has an accuracy (with confidence level of 95 percent) of not less than plus or minus 35 percent for concentrations of inorganic arsenic greater than 5 µg/m³ but less than 10 µg/m³.

(f) *Regulated area*—(1) *Establishment.* The employer shall establish regulated areas where worker exposures to inorganic arsenic, without regard to the use of respirators, are in excess of the permissible limit.

(2) *Demarcation.* Regulated areas shall be demarcated and segregated from the rest of the workplace in any manner that minimizes the number of persons who will be exposed to inorganic arsenic.

(3) *Access.* Access to regulated areas shall be limited to authorized persons or to persons otherwise authorized by the Act or regulations issued pursuant thereto to enter such areas.

(4) *Provision of respirators.* All persons entering a regulated area shall be supplied with a respirator, selected in accordance with paragraph (h)(2) of this section.

(5) *Prohibited activities.* The employer shall assure that in regulated areas, food or beverages are not consumed, smoking products, chewing tobacco and gum are not used and cosmetics are not applied, except that these activities may be conducted in the lunchrooms, change rooms and showers required under paragraph (m) of this section. Drinking water may be consumed in the regulated area.

(g) *Methods of compliance*—(1) *Controls.* (i) The employer shall institute at the earliest possible time but not later than December 31, 1979, engineering and work practice controls to reduce exposures to or below the permissible exposure limit, except to the extent that the employer can establish that such controls are not feasible.

(ii) Where engineering and work practice controls are not sufficient to reduce exposures to or below the permissible exposure limit, they shall nonetheless be used to reduce exposures to the lowest levels achievable by these controls and shall be supplemented by the use of respirators in accordance with paragraph (h) of this section and other necessary personal protective equipment. Employee rotation is not required as a control strategy before respiratory protection is instituted.

(2) *Compliance Program.* (i) The employer shall establish and implement a written program to reduce exposures to or below the permissible exposure limit by means of engineering and work practice controls.

(ii) Written plans for these compliance programs shall include at least the following:

(A) A description of each operation in which inorganic arsenic is emitted; e.g. machinery used, material processed, controls in place, crew size, operating procedures and maintenance practices;

(B) Engineering plans and studies used to determine methods selected for controlling exposure to inorganic arsenic;

(C) A report of the technology considered in meeting the permissible exposure limit;

(D) Monitoring data;

(E) A detailed schedule for implementation of the engineering controls and work practices that cannot be implemented immediately and for the adaption and implementation of any additional engineering and work practices necessary to meet the permissible exposure limit;

(F) Whenever the employer will not achieve the permissible exposure limit with engineering controls and work practices by December 31, 1979, the employer shall include in the compliance plan an analysis of the effectiveness of the various controls, shall install engineering controls and institute work practices on the quickest schedule feasible, and shall include in the compliance plan and implement a program to minimize the discomfort and maximize the effectiveness of respirator use; and

(G) Other relevant information.

(iii) Written plans for such a program shall be submitted upon request to the Assistant Secretary and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary, Director, any affected employee or authorized employee representatives.

(iv) The plans required by this paragraph shall be revised and updated at least every 6 months to reflect the current status of the program.

(h) *Respiratory protection*—(1) *General.* The employer shall assure that respirators are used where required under this section to reduce employee exposures to below the permissible exposure limit and in emergencies. Respirators shall be used in the following circumstances:

(i) During the time period necessary to install or implement feasible engineering or work practice controls;

(ii) In work operations such as maintenance and repair activities in which the employer establishes that engineering and work practice controls are not feasible;

(iii) In work situations in which engineering controls and supplemental work practice controls are not yet sufficient to reduce exposures to or below the permissible exposure limit; or

(iv) In emergencies.

(2) *Respirator selection.* (i) Where respirators are required under this section the employer shall select, provide at no cost to the employee and assure the use of the appropriate respirator or combination of respirators from Table I below for inorganic arsenic compounds without significant vapor pressure, or Table II below for inorganic arsenic compounds which have significant vapor pressure.

(ii) Where employee exposures exceed the permissible exposure limit for inorganic arsenic and also exceed the relevant limit for particular gasses such as sulfur dioxide, any air purifying respirator supplied to the employee as permitted by this standard must have a combination high efficiency filter with an appropriate gas sorbent. (See footnote in Table 1)

TABLE I—RESPIRATORY PROTECTION FOR INORGANIC ARSENIC PARTICULATE EXCEPT FOR THOSE WITH SIGNIFICANT VAPOR PRESSURE

Concentration of inorganic arsenic (as As) or condition of use	Required respirator
(i) Unknown or greater or lesser than 20,000 µg/m³ (20 mg/m³) or firefighting.	(A) Any full facepiece self-contained breathing apparatus operated in positive pressure mode.
(ii) Not greater than 20,000 µg/m³ (20 mg/m³)	(A) Supplied air respirator with full facepiece, hood, or helmet or suit and operated in positive pressure mode.
(iii) Not greater than 10,000 µg/m³ (10 mg/m³)	(A) Powered air-purifying respirators in all inlet face coverings with high efficiency filters.[1] (B) Half-mask supplied air respirators operated in positive pressure mode.

TABLE I—RESPIRATORY PROTECTION FOR INORGANIC ARSENIC PARTICULATE EXCEPT FOR THOSE WITH SIGNIFICANT VAPOR PRESSURE—Continued

Concentration of inorganic arsenic (as As) or condition of use	Required respirator
(iv) Not greater than 500 μg/m³	(A) Full facepiece air-purifying respirator equipped with high-efficiency filter.[1] (B) Any full facepiece supplied air respirator. (C) Any full facepiece self-contained breathing apparatus.
(v) Not greater than 100 μg/m³	(A) Half-mask air-purifying respirator equipped with high-efficiency filter.[1] (B) Any half-mask supplied air respirator.

[1]High-efficiency filter—99.97 pct efficiency against 0.3 micrometer monodisperse diethyl-hexyl phthalate (DOP) particles.

TABLE II—RESPIRATORY PROTECTION FOR INORGANIC ARSENICALS (SUCH AS ARSENIC TRICHLORIDE[2] AND ARSENIC PHOSPHIDE) WITH SIGNIFICANT VAPOR PRESSURE

Concentration of inorganic arsenic (as As) or condition of use	Required respirator
(i) Unknown or greater or lesser than 20,000 μg/m³ (20mg/m³) or firefighting.	(A) Any full facepiece self-contained breathing apparatus operated in positive pressure mode.
(ii) Not greater than 20,000 μg/m³ (20 mg/m³)	(A) Supplied air respirator with full facepiece hood, or helmet or suit and operated in positive pressure mode.
(iii) Not greater than 10,000 μg/m³ (10mg/m³)	(A) Half-mask[2] supplied air respirator operated in positive pressure mode.
(iv) Not greater than 500 μg/m³	(A) Front or back mounted gas mask equipped with high-efficiency filter[1] and acid gas canister. (B) Any full facepiece supplied air respirator. (C) Any full facepiece self-contained breathing apparatus.
(v) Not greater than 100 μg/m³	(A) Half-mask[2] air-purifying respirator equipped with high-efficiency filter[1] and acid gas cartridge. (B) Any half-mask supplied air respirator.

[1]High efficiency filter—99.97 pct efficiency against 0.3 micrometer monodisperse diethyl-hexyl phthalate (DOP) particles.
[2]Half-mask respirators shall not be used for protection against arsenic trichloride, as it is rapidly absorbed through the skin.

(iii) The employer shall select respirators from among those approved for protection against dust, fume, and mist by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR part 11.

(3) *Respirator usage.* (i) The employer shall assure that the respirator issued to the employee exhibits minimum facepiece leakage and that the respirator is fitted properly.

(ii) The employer shall perform qualitative fit tests at the time of initial fitting and at least semi-annually thereafter for each employee wearing respirators, where quantitative fit tests are not required.

(iii) Employers with more than 20 employees wearing respirators shall perform a quantitative face fit test at the time of initial fitting and least semi-annually thereafter for each employee wearing negative pressure respirators. The test shall be used to select facepieces that provide the required protection as prescribed in Table I or II.

(iv) If an employee has demonstrated difficulty in breathing during the fitting test or during use, he or she shall be examined by a physician trained in pulmonary medicine to determine whether the employee can wear a respirator while performing the required duty.

(4) *Respirator program.* (i) The employer shall institute a respiratory protection program in accordance with 29 CFR 1926.103 (e), (g), (h) and (i).

(ii) The employer shall permit each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.

(iii) Employees who wear respirators shall be permitted to leave work areas to wash their face and respirator facepiece to prevent skin irritation associated with respirator use.

(5) *Commencement of respirator use.* (i) The employer's obligation to provide respirators commences on August 1, 1978 for employees exposed over 500 μg/m³ of inorganic arsenic, as soon as possible but not later than October 1, 1978 for employees exposed to over 50 μg/m³ of inorganic arsenic, and as soon as possible but not later than December 1, 1978 for employees exposed between 10 and 50 μg/m³ of inorganic arsenic.

(ii) Employees with exposures below 50 μg/m³ of inorganic arsenic may choose not to wear respirators until December 31, 1979.

(iii) After December 1, 1978 any employee required to wear air-purifying respirators may choose, and if so chosen the employer must provide, if it will give proper protection, a powered air purifying respirator and in addition if necessary a combination dust and acid gas respirator for times where exposures to gases are over the relevant exposure limits.

(i) [Reserved]

(j) *Protective work clothing and equipment*—(1) *Provision and use.* Where the possibility of skin or eye irritation from inorganic arsenic exists, and for all workers working in regulated areas, the employer shall provide at no cost to the employee and assure that employees use appropriate and clean protective work clothing and equipment such as, but not limited to:

(i) Coveralls or similar full-body work clothing;

(ii) Gloves, and shoes or coverlets;

(iii) Face shields or vented goggles when necessary to prevent eye irritation, which comply with the requirements of § 1926.102; and

(iv) Impervious clothing for employees subject to exposure to arsenic trichloride.

(2) *Cleaning and replacement.* (i) The employer shall provide the protective clothing required in paragraph (j)(1) of this section in a freshly laundered and dry condition at least weekly, and daily if the employee works in areas where exposures are over 100 μg/m³ of inorganic arsenic or in areas where more frequent washing is needed to prevent skin irritation.

(ii) The employer shall clean, launder, or dispose of protective clothing required by paragraph (j)(1) of this section.

(iii) The employer shall repair or replace the protective clothing and equipment as needed to maintain their effectiveness.

(iv) The employer shall assure that all protective clothing is removed at the completion of a work shift only in change rooms prescribed in paragraph (m)(1) of this section.

(v) The employer shall assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closed container in the change-room which prevents dispersion of inorganic arsenic outside the container.

(vi) The employer shall inform in writing any person who cleans or launders clothing required by this section, of the potentially harmful effects including the carcinogenic effects of exposure to inorganic arsenic.

(vii) The employer shall assure that the containers of contaminated protective clothing and equipment in the workplace or which are to be removed from the workplace are labelled as follows:

Caution: Clothing contaminated with inorganic arsenic; do not remove dust by blowing or shaking. Dispose of inorganic arsenic contaminated wash water in accordance with applicable local, State or Federal regulations.

(viii) The employer shall prohibit the removal of inorganic arsenic from protective clothing or equipment by blowing or shaking.

(k) *Housekeeping*—(1) *Surfaces.* All surfaces shall be maintained as free as practicable of accumulations of inorganic arsenic.

(2) *Cleaning floors.* Floors and other accessible surfaces contaminated with inorganic arsenic may not be cleaned by the use of compressed air, and shoveling and brushing may be used only where vacuuming or other relevant methods have been tried and found not to be effective.

(3) *Vacuuming.* Where vacuuming methods are selected, the vacuums shall be used and emptied in a manner to minimize the reentry of inorganic arsenic into the workplace.

(4) *Housekeeping plan.* A written housekeeping and maintenance plan shall be kept which shall list appropriate frequencies for carrying out housekeeping operations, and for cleaning and maintaining dust collection equipment. The plan shall be available for inspection by the Assistant Secretary.

(5) *Maintenance of equipment.* Periodic cleaning of dust collection and ventilation equipment and checks of their effectiveness shall be carried out to maintain the effectiveness of the system and a notation kept of the last check of effectiveness and cleaning or maintenance.

(l) [Reserved]

(m) *Hygiene facilities and practices*—(1) *Change rooms.* The employer shall provide for employees working in regulated areas or subject to the possibility of skin or eye irritation from inorganic arsenic, clean change rooms equipped with storage facilities for street clothes and separate storage facilities for protective clothing and equipment in accordance with 29 CFR 1926.51(i).

(2) *Showers.* (i) The employer shall assure that employees working in regulated areas or subject to the possibility of skin or eye irritation from inorganic arsenic shower at the end of the work shift.

(ii) The employer shall provide shower facilities in accordance with § 1926.51(f)(4).

(3) *Lunchrooms.* (i) The employer shall provide for employees working in regulated areas, lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees working in regulated areas.

(ii) The employer shall assure that employees working in the regulated area or subject to the possibility of skin or eye irritation from exposure to inorganic arsenic wash their hands and face prior to eating.

(4) *Lavatories.* The employer shall provide lavatory facilities which comply with § 1926.51(f) (2) and (3).

(5) *Vacuuming clothes.* The employer shall provide facilities for employees working in areas where exposure, without regard to the use of respirators, exceeds 100 $\mu g/m^3$ to vacuum their protective clothing and clean or change shoes worn in such areas before entering change rooms, lunchrooms or shower rooms required by paragraph (j) of this section and shall assure that such employees use such facilities.

(6) *Avoidance of skin irritation.* The employer shall assure that no employee is exposed to skin or eye contact with arsenic trichloride, or to skin or eye contact with liquid or particulate inorganic arsenic which is likely to cause skin or eye irritation.

(n) *Medical surveillance*—(1) *General*—(i) *Employees covered.* The employer shall institute a medical surveillance program for the following employees:

(A) All employees who are or will be exposed above the action level, without regard to the use of respirators, at least 30 days per year; and

(B) All employees who have been exposed above the action level, without regard to respirator use, for 30 days or more per year for a total of 10 years or more of combined employment with the employer or predecessor employers prior to or after the effective date of this standard. The determination of exposures prior to the effective date of this standard shall be based upon prior exposure records, comparison with the first measurements taken after the effective date of this standard, or comparison with records of exposures in areas with similar processes, extent of engineering controls utilized and materials used by that employer.

(ii) *Examination by physician.* The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee, without loss of pay and at a reasonable time and place.

(2) *Initial examinations.* By December 1, 1978, for employees initially covered by the medical provisions of this section, or thereafter at the time of initial assignment to an area where the employee is likely to be exposed over the action level at least 30 days per year, the employer shall provide each affected employee an opportunity for a medical examination, including at least the following elements:

(i) A work history and a medical history which shall include a smoking history and the presence and degree of respiratory symptoms such as breathlessness, cough, sputum production and wheezing.

(ii) A medical examination which shall include at least the following:

(A) A 14″ by 17″ (35.56 × 43.18 cm) posterior-anterior chest X-ray and International Labor Office UICC/Cincinnati (ILO U/C) rating;

(B) A nasal and skin examination;

(C) A sputum cytology examination; and

(D) Other examinations which the physician believes appropriate because of the employees exposure to inorganic arsenic or because of required respirator use.

(3) *Periodic examinations.* (i) The employer shall provide the examinations specified in paragraphs (n)(2)(i) and (n)(2)(ii) (A), (B), and (D) at least annually for covered employees who are under 45 years of age with fewer than 10 years of exposure over the action level without regard to respirator use.

(ii) The employer shall provide the examinations specified in paragraphs (n)(2)(i) and (n)(2)(ii) of this section at

least semi-annually for other covered employees.

(iii) Whenever a covered employee has not taken the examinations specified in paragraphs (n)(2)(i) and (n)(2)(ii) of this section within six (6) months preceding the termination of employment, the employer shall provide such examinations to the employee upon termination of employment.

(4) *Additional examinations.* If the employee for any reason develops signs or symptoms commonly associated with exposure to inorganic arsenic the employer shall provide an appropriate examination and emergency medical treatment.

(5) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this standard and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's representative exposure level or anticipated exposure level;

(iv) A description of any personal protective equipment used or to be used; and

(v) Information from previous medical examinations of the affected employee which is not readily available to the examining physician.

(6) *Physician's written opinion.* (i) The employer shall obtain a written opinion from the examining physician which shall include:

(A) The results of the medical examination and tests performed;

(B) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from exposure to inorganic arsenic;

(C) Any recommended limitations upon the employee's exposure to inorganic arsenic or upon the use of protective clothing or equipment such as respirators; and

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further explanation or treatment.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure.

(iii) The employer shall provide a copy of the written opinion to the affected employee.

(o) *Employee information and training*—(1) *Training program.* (i) The employer shall institute a training program for all employees who are subject to exposure to inorganic arsenic above the action level without regard to respirator use, or for whom there is the possibility of skin or eye irritation from inorganic arsenic. The employer shall assure that those employees participate in the training program.

(ii) The training program shall be provided by October 1, 1978, for employees covered by this provision, at the time of initial assignment for those subsequently covered by this provision, and shall be repeated at least quarterly for employees who have optional use of respirators and at least annually for other covered employees thereafter; and the employer shall assure that each employee is informed of the following:

(A) The information contained in Appendix A;

(B) The quantity, location, manner of use, storage, sources of exposure, and the specific nature of operations which could result in exposure to inorganic arsenic as well as any necessary protective steps;

(C) The purpose, proper use, and limitation of respirators;

(D) The purpose and a description of the medical surveillance program as required by paragraph (n) of this section;

(E) The engineering controls and work practices associated with the employee's job assignment; and

(F) A review of this standard.

(2) *Access to training materials.* (i) The employer shall make readily available to all affected employees a copy of this standard and its appendices.

(ii) The employer shall provide; upon request, all materials relating to the employee information and training program to the Assistant Secretary and the Director.

(p) *Signs and labels*—(1) *General.* (i) The employer may use labels or signs required by other statutes, regulations, or ordinances in addition to, or in combination with, signs and labels required by this paragraph.

(ii) The employer shall assure that no statement appears on or near any sign or label required by this paragraph which contradicts or detracts from the meaning of the required sign or label.

(2) *Signs.* (i) The employer shall post signs demarcating regulated areas bearing the legend;

DANGER
INORGANIC ARSENIC
CANCER HAZARD
AUTHORIZED PERSONNEL ONLY
NO SMOKING OR EATING
RESPIRATOR REQUIRED

(ii) The employer shall assure that signs required by this paragraph are illuminated and cleaned as necessary so that the legend is readily visible.

(3) *Labels.* The employer shall apply precautionary labels to all shipping and storage containers of inorganic arsenic, and to all products containing inorganic arsenic except when the inorganic arsenic in the product is bound in such a manner so as to make unlikely the possibility of airborne exposure to inorganic arsenic. (Possible examples of products not requiring labels are semiconductors, light emitting diodes and glass). The label shall bear the following legend:

DANGER
CONTAINS INORGANIC ARSENIC
CANCER HAZARD
HARMFUL IF INHALED OR SWALLOWED
USE ONLY WITH ADEQUATE VENITLATION
OR RESPIRATORY PROTECTION

(q) *Recordkeeping*—(1) *Exposure monitoring.* (i) The employer shall establish and maintain an accurate record of all monitoring required by paragraph (e) of this section.

(ii) This record shall include:

(A) The date(s), number, duration location, and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure where applicable;

(B) A description of the sampling and analytical methods used and evidence of their accuracy;

(C) The type of respiratory protective devices worn, if any;

(D) Name, social security number, and job classification of the employees monitored and of all other employees whose exposure the measurement is intended to represent; and

(E) The environmental variables that could affect the measurement of the employee's exposure.

(iii) The employer shall maintain these monitoring records for at least 40 years or for the duration of employment plus 20 years, whichever, is longer.

(2) *Medical surveillance.* (i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by paragraph (n) of this section.

(ii) This record shall include:

(A) The name, social security number, and description of duties of the employee;

(B) A copy of the physician's written opinions;

(C) Results of any exposure monitoring done for that employee and the representative exposure levels supplied to the physician: and

(D) Any employee medical complaints related to exposure to inorganic arsenic.

(iii) The employer shall in addition keep, or assure that the examining physician keeps, the following medical records;

(A) A copy of the medical examination results including medical and work history required under paragraph (n) of this section;

(B) A description of the laboratory procedures and a copy of any standards or guidelines used to interpret the test results or references to that information;

(C) The initial X-ray;

(D) The X-rays for the most recent 5 years;

(E) Any X-rays with a demonstrated abnormality and all subsequent X-rays;

(F) The initial cytologic examination slide and written description;

(G) The cytologic examination slide and written description for the most recent 5 years; and

(H) Any cytologic examination slides with demonstrated atypia, if such atypia persists for 3 years, and all subsequent slides and written descriptions.

(iv) The employer shall maintain or assure that the physician maintains those medical records for at least 40 years, or for the duration of employment plus 20 years whichever is longer.

(3) *Availability.* (i) The employer shall make available upon request all records required to be maintained by paragraph (q) of this section to the Assistant Secretary and the Director for examination and copying.

(ii) Records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a) through (e) and (g) through (i).

(4) *Transfer of records.* (i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by this section.

(ii) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records required to be maintained by this section for the prescribed period, these records shall be transmitted to the Director.

(iii) At the expiration of the retention period for the records required to be maintained by this section, the employer shall notify the Director at least 3 months prior to the disposal of such records and shall transmit those records to the Director if he requests them within that period.

(iv) The employer shall also comply with any additional requirements involving the transfer of records set in 29 CFR 1926.33(h).

(r) *Observation of monitoring*—(1) *Employee observation.* The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to inorganic arsenic conducted pursuant to paragraph (e) of this section.

(2) *Observation procedures.* (i) Whenever observation of the monitoring of employee exposure to inorganic arsenic requires entry into an area where the use of respirators, protective clothing, or equipment is required, the employer shall provide the observer with and assure the use of such respirators, clothing, and such equipment, and shall require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring, observers shall be entitled to;

(A) Receive an explanation of the measurement procedures;

(B) Observe all steps related to the monitoring of inorganic arsenic performed at the place of exposure; and

(C) Record the results obtained or receive copies of the results when returned by the laboratory.

(s) *Effective date.* This standard shall become effective August 1, 1978.

(t) *Appendices.* The information contained in the appendices to this section is not intended by itself, to create any additional obligations not otherwise imposed by this standard nor detract from any existing obligation.

(u) *Startup dates*—(1) *General.* The startup dates of requirements of this standard shall be the effective date of this standard unless another startup date is provided for either in other paragraphs of this section or in this paragraph.

(2) *Monitoring.* Initial monitoring shall be commenced on August 1, 1978, and shall be completed by September 15, 1978.

(3) *Regulated areas.* Regulated areas required to be established as a result of initial monitoring shall be set up as soon as possible after the results of that monitoring is known and no later than October 1, 1978.

(4) *Compliance program.* The written program required by paragraph (g)(2) as a result of initial monitoring shall be made available for inspection and copying as soon as possible and no later than December 1, 1978.

(5) *Hygiene and lunchroom facilities.* Construction plans for change- rooms, showers, lavatories, and lunchroom facilities shall be completed no later than December 1, 1978, and these facilities shall be constructed and in use no later than July 1, 1979. However, if as part of the compliance plan it is predicted by an independent engineering firm that engineering controls and work practices will reduce exposures below the permissible exposure limit by December 31, 1979, for affected employees, then such facilities need not be completed until 1 year after the engineering controls are completed or December 31, 1980, whichever is earlier, if such controls have not in fact succeeded in reducing exposure to below the permissible exposure limit.

(6) *Summary of startup dates set forth elsewhere in this standard.*

Startup Dates

August 1, 1978—Respirator use over 500 μg/m³.

as soon as possible but no later than

September 15, 1978—Completion of initial monitoring.

October 1, 1978—Complete establishment of regulated areas. Respirator use for employees exposed above 50 μg/m³. Completion of initial training. Notification of use.

December 1, 1978—Respirator use over 10 μg/m³. Completion of initial medical. Completion of compliance plan. Optional use of powered air-purifying respirators.

July 1, 1979—Completion of lunch rooms and hygiene facilities.

December 31, 1979—Completion of engineering controls.

All other requirements of the standard have as their startup date August 1, 1978.

(Approved by the Office of Management and Budget under control number 1218—0104)

Appendix A to § 1926.1118—Inorganic Arsenic Substance Information Sheet

I. Substance Identification

A. *Substance.* Inorganic Arsenic.

B. *Definition.* Copper acetoarsenite, arsenic and all inorganic compounds containing arsenic except arsine, measured as arsenic (As).

C. *Permissible Exposure Limit.* 10 micrograms per cubic meter of air as determined as an average over an 8-hour period. No employee may be exposed to any skin or eye contact with arsenic trichloride or to skin or eye contact likely to cause skin or eye irritation.

D. *Regulated Areas.* Only employees authorized by your employer should enter a regulated area.

II. Health Hazard Data

A. *Comments.* The health hazard of inorganic arsenic is high.

B. *Ways in which the chemical affects your body.* Exposure to airborne concentrations of inorganic arsenic may cause lung cancer, and can be a skin irritant. Inorganic arsenic may also affect your body if swallowed. One compound in particular, arsenic trichloride, is especially dangerous because it can be absorbed readily through the skin. Because inorganic arsenic is a poison, you should

wash your hands thoroughly prior to eating or smoking.

III. Protective Clothing and Equipment

A. *Respirators.* Respirators will be provided by your employer at no cost to you for routine use if your employer is in the process of implementing engineering and work practice controls or where engineering and work practice controls are not feasible or insufficient. You must wear respirators for non-routine activities or in emergency situations where you are likely to be exposed to levels of inorganic arsenic in excess of the permissible exposure limit. Since how well your respirator fits your face is very important, your employer is required to conduct fit tests to make sure the respirator seals properly when you wear it. These tests are simple and rapid and will be explained to you during training sessions.

B. *Protective clothing.* If you work in a regulated area, your employer is required to provide at no cost to you, and you must wear, appropriate, clean, protective clothing and equipment. The purpose of this equipment is to prevent you from bringing to your home arsenic-contaminated dust and to protect your body from repeated skin contact with inorganic arsenic likely to cause skin irritation. This clothing should include such items as coveralls or similar full-body clothing, gloves, shoes or coverlets, and aprons. Protective equipment should include face shields or vented goggles, where eye irritation may occur.

IV. Hygiene Facilities and Practices

You must not eat, drink, smoke, chew gum or tobacco, or apply cosmetics in the regulated area, except that drinking water is permitted. If you work in a regulated area your employer is required to provide lunchrooms and other areas for these purposes.

If you work in a regulated area, your employer is required to provide showers, washing facilities, and change rooms. You must wash your face, and hands before eating and must shower at the end of the work shift. Do not take used protective clothing out of change rooms without your employer's permission. Your employer is required to provide for laundering or cleaning of your protective clothing.

V. Signs and Labels

Your employer is required to post warning signs and labels for your protection. Signs must be posted in regulated areas. The signs must warn that a cancer hazard is present, that only authorized employees may enter the area, and that no smoking or eating is allowed, and that respirators must be worn.

VI. Medical Examinations

If your exposure to arsenic is over the Action Level (5 μg/m³)—(including all persons working in regulated areas) at least 30 days per year, or you have been exposed to arsenic for more than 10 years over the Action Level, your employer is required to provide you with a medical examination. The examination shall be every 6 months for employees over 45 years old or with more than 10 years exposure over the Action Level and annually for other covered employees. The medical examination must include a medical history; a chest x-ray; skin examination; nasal examination and sputum cytology exam for the early detection of lung cancer. The cytology exams are only included in the initial exam and examinations given after you are either 45 years or older or have 10 or more years employment over the Action Level. The examining physician will provide a written opinion to your employer containing the results of the medical exams. You should also receive a copy of this opinion. The physician must not tell your employer any conditions he detects unrelated to occupational exposure to arsenic but must tell you those conditions

VII. Observation of Monitoring

Your employer is required to monitor your exposure to arsenic and you or your representatives are entitled to observe the monitoring procedure. You are entitled to receive an explanation of the measurement procedure, and to record the results obtained. When the monitoring procedure is taking place in an area where respirators or personal protective clothing and equipment are required to be worn, you must also be provided with and must wear the protective clothing and equipment.

VIII. Access to Records

You or your representative are entitled to records of your exposure to inorganic arsenic and your medical examination records if you request your employer to provide them.

IX. TRAINING AND NOTIFICATION

Additional information on all of these items plus training as to hazards of exposure to inorganic arsenic and the engineering and work practice controls associated with your job will also be provided by your employer. If you are exposed over the permissible exposure limit, your employer must inform you of that fact and the actions he is taking to reduce your exposures.

Appendix B to § 1926.1118—Substance Technical Guidelines

ARSENIC, ARSENIC TRIOXIDE, ARSENIC TRICHLORIDE (THREE EXAMPLES)

I. Physical and chemical properties

A. Arsenic (metal).

1. Formula: As.
2. Appearance: Gray metal.
3. Melting point: Sublimes without melting at 613°C.
4. Specific Gravity: (H_20=1):5.73.
5. Solubility in water: Insoluble.

B. Arsenic Trioxide.

1. Formula: As203, (As406).
2. Appearance: White powder.
3. Melting point: 315°C.
4. Specific Gravity (H_20=1):3.74.
5. Solubility in water: 3.7 grams in 100cc of water at 20°C.

C. Arsenic Trichloride (liquid).

1. Formula: AsC 13.
2. Appearance: Colorless or pale yellow liquid.
3. Melting point: −8.5°C.
4. Boiling point: 130.2°C.
5. Specific Gravity (H_20=1):2.16 at 20°C.
6. Vapor Pressure: 10mm Hg at 23.5°C.
7. Solubility in Water: Decomposes in water.

II. Fire, explosion and reactivity data.

A. Fire: Arsenic, arsenic Trioxide and Arsenic Trichloride are nonflammable.

B. Reactivity:

1. Conditions Contributing to Instability: Heat.
2. Incompatibility: Hydrogen gas can react with inorganic arsenic to form the highly toxic gas arsine.

III. Monitoring and Measurement Procedures

Samples collected should be full shift (at least 7-hour) samples. Sampling should be done using a personal sampling pump at a flow rate of 2 liters per minute. Samples should be collected on 0.8 micrometer pore size membrane filter (37mm diameter). Volatile arsenicals such as arsenic trichloride can be most easily collected in a midget bubbler filled with 15 ml. of 0.1 N NaOH.

The method of sampling and analysis should have an accuracy of not less than ±25 percent (with a confidence limit of 95 percent) for 10 micrograms per cubic meter of air (10 μg/m³) and ±35 percent (with a confidence limit of 95 percent) for concentrations of inorganic arsenic between 5 and 10 μg/m³.

Appendix C to § 1926.1118—Medical Surveillance Guidelines

I. GENERAL

Medical examinations are to be provided for all employees exposed to levels of inorganic arsenic above the action level (5 μg/m³) for at least 30 days per year (which would include among others, all employees, who work in regulated areas). Examinations are also to be provided to all employees who have had 10 years or more exposure above the action level for more than 30 days per year while working for the present or predecessor employer though they may no longer be exposed above the level.

An initial medical examination is to be provided to all such employees by December 1, 1978. In addition, an initial medical examination is to be provided to all employees who are first assigned to areas in which worker exposure will probably exceed 5 μg/m³ (after the effective date of this standard) at the time of initial assignment. In addition to its immediate diagnostic usefulness, the initial examination will provide a baseline for comparing future test results. The initial examination must include as a minimum the following elements:

(1) A work and medical history, including a smoking history, and presence and degree of respiratory symptoms such as breathlessness, cough, sputum production, and wheezing;

(2) A 14" by 17" (35.56 × 43.18 cm) posterior-anterior chest X-ray and an International Labor Office UICC/Cincinnati (ILO U/C) rating;

(3) A nasal and skin examination;

(4) A Sputum Cytology examination; and

(5) Other examinations which the physician believes appropriate because of the employee's exposure to inorganic arsenic or because of required respirator use.

Periodic examinations are also to be provided to the employees listed above. The

periodic examinations shall be given annually for those covered employees 45 years of age or less with fewer than 10 years employment in areas where employee exposure exceeds the action level (5 $\mu g/m^3$). Periodic examinations need not include sputum cytology and only an updated medical history is required.

Periodic examinations for other covered employees, shall be provided every six (6) months. These examinations shall include all tests required in the initial examination, except that the medical history need only be updated.

The examination contents are minimum requirements. Additional tests such as lateral and oblique X-rays or pulmonary function tests may be useful. For workers exposed to three arsenicals which are associated with lymphatic cancer, copper acetoarsenite, potassium arsenite, or sodium arsenite the examination should also include palpation of superficial lymph nodes and complete blood count.

II. Noncarcinogenic Effects

The OSHA standard is based on minimizing risk of exposed workers dying of lung cancer from exposure to inorganic arsenic. It will also minimize skin cancer from such exposures.

The following three sections quoted from "Occupational Diseases: A Guide to Their Recognition", Revised Edition, June 1977, National Institute for Occupational Safety and Health is included to provide information on the nonneoplastic effects of exposure to inorganic arsenic. Such effects should not occur if the OSHA standards are followed.

A. *Local*—Trivalent arsenic compounds are corrosive to the skin. Brief contact has no effect but prolonged contact results in a local hyperemia and later vesicular or pustular eruption. The moist mucous membranes are most sensitive to the irritant action. Conjunctiva, moist and macerated areas of skin, the eyelids, the angles of the ears, nose, mouth, and respiratory mucosa are also vulnerable to the irritant effects. The wrists are common sites of dermatitis, as are the genitalia if personal hygiene is poor. Perforations of the nasal septum may occur. Arsenic trioxide and pentoxide are capable of producing skin sensitization and contact dermatitis. Arsenic is also capable of producing keratoses, especially of the palms and soles.

B. *Systemic*—The acute toxic effects of arsenic are generally seen following ingestion of inorganic arsenical compounds. This rarely occurs in an industrial setting. Symptoms develop within ½ to 4 hours following ingestion and are usually characterized by constriction of the throat followed by dysphagia, epigastric pain, vomiting, and watery diarrhea. Blood may appear in vomitus and stools. If the amount ingested is sufficiently high, shock may develop due to severe fluid loss, and death may ensue in 24 hours. If the acute effects are survived, exfoliative dermatitis and peripheral neuritis may develop.

Cases of acute arsenical poisoning due to inhalation are exceedingly rare in industry. When it does occur, respiratory tract symptoms—cough, chest pain, dyspnea—giddiness, headache, and extreme general weakness precede gastrointestinal symptoms. The acute toxic symptoms of trivalent arsenical poisoning are due to severe inflammation of the mucous membranes and greatly increased permeability of the blood capillaries.

Chronic arsenical poisoning due to ingestion is rare and generally confined to patients taking prescribed medications. However, it can be a concomitant of inhaled inorganic arsenic from swallowed sputum and improper eating habits. Symptoms are weight loss, nausea and diarrhea alternating with constipation, pigmentation and eruption of the skin, loss of hair, and peripheral neuritis. Chronic hepatitis and cirrhosis have been described. Polyneuritis may be the salient feature, but more frequently there are numbness and parasthenias of "glove and stocking" distribution. The skin lesions are usually melanotic and keratotic and may occasionally take the form of an intradermal cancer of the squamous cell type, but without infiltrative properties. Horizontal white lines (striations) on the fingernails and toenails are commonly seen in chronic arsenical poisoning and are considered to be a diagnostic accompaniment of arsenical polyneuritis.

Inhalation of inorganic arsenic compounds is the most common cause of chronic poisoning in the industrial situation. This condition is divided into three phases based on signs and symptoms.

First Phase: The worker complains of weakness, loss of appetite, some nausea, occasional vomiting, a sense of heaviness in the stomach, and some diarrhea.

Second Phase: The worker complains of conjunctivitis, a catarrhal state of the mucous membranes of the nose, larynx, and respiratory passage. Coryza, hoarseness, and mild tracheobronchitis may occur. Perforation of the nasal septum is common, and is probably the most typical lesion of the upper respiratory tract in occupational exposure to arsenical dust. Skin lesions, eczematoid and allergic in type, are common.

Third Phase: The worker complains of symptoms of peripheral neuritis, initially of hands and feet, which is essentially sensory. In more severe cases, motor paralyses occur; the first muscles affected are usually the toe extensors and the peronei. In only the most severe cases will paralysis of flexor muscles of the feet or of the extensor muscles of hands occur.

Liver damage from chronic arsenical poisoning is still debated, and as yet the question is unanswered. In cases of chronic and acute arsenical poisoning, toxic effects to the myocardium have been reported based on EKG changes. These findings, however, are now largely discounted and the EKG changes are ascribed to electrolyte disturbances concomitant with arsenicalism. Inhalation of arsenic trioxide and other inorganic arsenical dusts does not give rise to radiological evidence or pneumoconiosis. Arsenic does have a depressant effect upon the bone marrow, with disturbances of both erythropoiesis and myelopoiesis.

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III. Sputum Cytology

Sputum can be collected by aerosol inhalation during the medical exam or by spontaneous early morning cough at home. Sputum is induced by transoral inhalation of an aerosolized solution of eight per cent (8 percent) sodium chloride in water. After inhaling as few as three to five breaths the subject usually yields an adequate sputum. All sputum should be collected directly into sixty percent (60 percent) alcohol.

Scientific evidence suggests that chest X-rays and sputum cytology should be used together as screening tests for lung tests for lung cancer in high risk populations such as workers exposed to inorganic arsenic. The tests are to be performed every six months on workers who are 45 years of age or older or have worked in the regulated area for 10 or more years. Since the tests seem to be complementary, it may be advantageous to alternate the test procedures. For instance, chest X-rays could be obtained in June and December and sputum cytologies could be obtained in March and September. Facilities for providing necessary diagnostic investigation should be readily available as well as chest physicians, surgeons, radiologists, pathologists and immunotherapists to provide any necessary treatment services.

§ 1926.1128 Benzene.

(a) *Scope and application.* (1) This section applies to all occupational exposures to benzene. Chemical Abstracts Service Registry No. 71–43–2, except as provided in paragraphs (a)(2) and (a)(3) of this section.

(2) This section does not apply to:

(i) The storage, transportation, distribution, dispensing, sale or use of gasoline, motor fuels, or other fuels containing benzene subsequent to its final discharge from bulk wholesale storage facilities, except that operations where gasoline or motor fuels are dispensed for more than 4 hours per day in an indoor location are covered by this section.

(ii) Loading and unloading operations at bulk wholesale storage facilities

which use vapor control systems for all loading and unloading operations, except for the provisions of 29 CFR 1926.59 as incorporated into this section and the emergency provisions of paragraphs (g) and (i)(4) of this section.

(iii) The storage, transportation, distribution or sale of benzene or liquid mixtures containing more than 0.1 percent benzene in intact containers or in transportation pipelines while sealed in such a manner as to contain benzene vapors or liquid, except for the provisions of 29 CFR 1926.59 as incorporated into this section and the emergency provisions of paragraphs (g) and (i)(4) of this section.

(iv) Containers and pipelines carrying mixtures with less than 0.1 percent benzene and natural gas processing plants processing gas with less than 0.1 percent benzene.

(v) Work operations where the only exposure to benzene is from liquid mixtures containing 0.5 percent or less of benzene by volume, or the vapors released from such liquids until September 12, 1988; work operations where the only exposure to benzene is from liquid mixtures containing 0.3 percent or less of benzene by volume or the vapors released from such liquids from September 12, 1988, to September 12, 1989; and work operations where the only exposure to benzene is from liquid mixtures containing 0.1 percent or less of benzene by volume or the vapors released from such liquids after September 12, 1989; except that tire building machine operators using solvents with more than 0.1 percent benzene are covered by paragraph (i) of this section.

(vi) Oil and gas drilling, production and servicing operations.

(vii) Coke oven batteries.

(3) The cleaning and repair of barges and tankers which have contained benzene are excluded from paragraph (f) methods of compliance, paragraph (e)(1) exposure monitoring-general, and paragraph (e)(6) accuracy of monitoring. Engineering and work practice controls shall be used to keep exposures below 10 ppm unless it is proven to be not feasible.

(b) *Definitions.*

Action level means an airborne concentration of benzene of 0.5 ppm calculated as an 8-hour time-weighted average.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

Authorized person means any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures under paragraph (l) of this section, or any other person authorized by the Act or regulations issued under the Act.

Benzene (C_6H_6) (CAS Registry No. 71–43–2) means liquefied or gaseous benzene. It includes benzene contained in liquid mixtures and the benzene vapors released by these liquids. It does not include trace amounts of unreacted benzene contained in solid materials.

Bulk wholesale storage facility means a bulk terminal or bulk plant where fuel is stored prior to its delivery to wholesale customers.

Container means any barrel, bottle, can, cylinder, drum, reaction vessel, storage tank, or the like, but does not include piping systems.

Day means any part of a calendar day.

Director means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

Emergency means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which may or does result in an unexpected significant release of benzene.

Employee exposure means exposure to airborne benzene which would occur if the employee were not using respiratory protective equipment.

Regulated area means any area where airborne concentrations of benzene exceed or can reasonably be expected to exceed, the permissible exposure limits, either the 8-hour time weighted average exposure of 1 ppm or the short-term exposure limit of 5 ppm for 15 minutes.

Vapor control system means any equipment used for containing the total vapors displaced during the loading of gasoline, motor fuel or other fuel tank trucks and the displacing of these vapors through a vapor processing system or balancing the vapor with the storage tank. This equipment also includes systems containing the vapors displaced from the storage tank during the unloading of the tank truck which balance the vapors back to the tank truck.

(c) *Permissible exposure limits (PELs)*—(1) *Time-weighted average limit (TWA).* The employer shall assure that no employee is exposed to an airborne concentration of benzene in excess of one part of benzene per million parts of air (1 ppm) as an 8-hour time-weighted average.

(2) *Short-term exposure limit (STEL).* The employer shall assure that no employee is exposed to an airborne concentration of benzene in excess of five (5) ppm as averaged over any 15 minute period.

(d) *Regulated areas.* (1) The employer shall establish a regulated area wherever the airborne concentration of benzene exceeds or can reasonably be expected to exceed the permissible exposure limits, either the 8-hour time weighted average exposure of 1 ppm or the short-term exposure limit of 5 ppm for 15 minutes.

(2) Access to regulated areas shall be limited to authorized persons.

(3) Regulated areas shall be determined from the rest of the workplace in any manner that minimizes the number of employees exposed to benzene within the regulated area.

(e) *Exposure monitoring*—(1) *General.* (i) Determinations of employee exposure shall be made from breathing zone air samples that are representative of each employee's average exposure to airborne benzene.

(ii) Representative 8-hour TWA employee exposures shall be determined on the basis of one sample or samples representing the full shift exposure for each job classification in each work area.

(iii) Determinations of compliance with the STEL shall be made from 15 minute employee breathing zone samples measured at operations where there is reason to believe exposures are high, such as where tanks are opened, filled, unloaded or gauged; where containers or process equipment are opened and where benzene is used for cleaning or as a solvent in an uncontrolled situation. The employer may use objective data, such as measurements from brief period measuring devices, to determine where STEL monitoring is needed.

(iv) Except for initial monitoring as required under paragraph (e)(2) of this section, where the employer can document that one shift will consistently have higher employee exposures for an operation, the employer shall only be required to determine representative employee exposure for that operation during the shift on which the highest exposure is expected.

(2) *Initial monitoring.* (i) Each employer who has a place of employment covered under paragraph (a)(1) of this section shall monitor each of these workplaces and work operations to determine accurately the airborne concentrations of benzene to which employees may be exposed.

(ii) The initial monitoring required under paragraph (e)(2)(i) of this section

shall be completed by 60 days after the effective date of this standard or within 30 days of the introduction of benzene into the workplace. Where the employer has monitored within one year prior to the effective date of this standard and the monitoring satisfies all other requirements of this section, the employer may rely on such earlier monitoring results to satisfy the requirements of paragraph (e)(2)(i) of this section.

(3) *Periodic monitoring and monitoring frequency.* (i) If the monitoring required by paragraph (e)(2)(i) of this section reveals employee exposure at or above the action level but at or below the TWA, the employer shall repeat such monitoring for each such employee at least every year.

(ii) If the monitoring required by paragraph (e)(2)(i) of this section reveals employee exposure above the TWA, the employer shall repeat such monitoring for each such employee at least every six (6) months.

(iii) The employer may alter the monitoring schedule from every six months to annually for any employee for whom two consecutive measurements taken at least 7 days apart indicate that the employee exposure has decreased to the TWA or below, but is at or above the action level.

(iv) Monitoring for the STEL shall be repeated as necessary to evaluate exposures of employees subject to short term exposures.

(4) *Termination of monitoring.* (i) If the initial monitoring required by paragraph (e)(2)(i) of this section reveals employee exposure to be below the action level the employer may discontinue the monitoring for that employee, except as otherwise required by paragraph (e)(5) of this section.

(ii) If the periodic monitoring required by paragraph (e)(3) of this section reveals that employee exposures, as indicated by at least two consecutive measurements taken at least 7 days apart, are below the action level the employer may discontinue the monitoring for that employee, except as otherwise required by paragraph (e)(5).

(5) *Additional monitoring.* (i) The employer shall institute the exposure monitoring required under paragraphs (e)(2) and (e)(3) of this section when there has been a change in the production, process, control equipment, personnel or work practices which may result in new or additional exposures to benzene, or when the employer has any reason to suspect a change which may result in new or additional exposures.

(ii) Whenever spills, leaks, ruptures or other breakdowns occur that may lead to employee exposure, the employer shall monitor (using area or personal sampling) after the cleanup of the spill or repair of the leak, rupture or other breakdown to ensure that exposures have returned to the level that existed prior to the incident.

(6) *Accuracy of monitoring.* Monitoring shall be accurate, to a confidence level of 95 percent, to within plus or minus 25 percent for airborne concentrations of benzene.

(7) *Employee notification of monitoring results.* (i) The employer shall, within 15 working days after the receipt of the results of any monitoring performed under this standard, notify each employee of these results in writing either individually or by posting of results in an appropriate location that is accessible to affected employees.

(ii) Whenever the PELs are exceeded, the written notification required by paragraph (e)(7)(i) of this section shall contain the corrective action being taken by the employer to reduce the employee exposure to or below the PEL, or shall refer to a document available to the employee which states the corrective actions to be taken.

(f) *Methods of compliance*—(1) *Engineering controls and work practices.* (i) The employer shall institute engineering controls and work practices to reduce and maintain employee exposure to benzene at or below the permissible exposure limits, except to the extent that the employer can establish that these controls are not feasible or where the provisions of paragraph (f)(1)(iii) or (g)(1) of this section apply.

(ii) Wherever the feasible engineering controls and work practices which can be instituted are not sufficient to reduce employee exposure to or below the PELs, the employer shall use them to reduce employee exposure to the lowest levels achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(iii) Where the employer can document that benzene is used in a workplace less than a total of 30 days per year, the employer shall use engineering controls, work practice controls or respiratory protection or any combination of these controls to reduce employee exposure to benzene to or below the PELs, except that employers shall use engineering and work practice controls, if feasible, to reduce exposure to or below 10 ppm as an 8-hour TWA.

(2) *Compliance program.* (i) When any exposures are over the PEL, the employer shall establish and implement a written program to reduce employee exposure to or below the PEL primarily by means of engineering and work practice controls, as required by paragraph (f)(1) of this section.

(ii) The written program shall include a schedule for development and implementation of the engineering and work practice controls. These plans shall be reviewed and revised as appropriate based on the most recent exposure monitoring data, to reflect the current status of the program.

(iii) Written compliance programs shall be furnished upon request for examination and copying to the Assistant Secretary, the Director, affected employees and designated employee representatives.

(g) *Respiratory protection.* (1) *General.* The employer shall provide respirators, and assure that they are used, where required by this section. Respirators shall be used in the following circumstances:

(i) During the time period necessary to install or implement feasible engineering and work practice controls;

(ii) In work operations for which the employer establishes that compliance with either the TWA or STEL through the use of engineering and work practice controls is not feasible, such as some maintenance and repair activities, vessel cleaning, or other operations where engineering and work practice controls are infeasible because exposures are intermittent in nature and limited in duration;

(iii) In work situations where feasible engineering and work practice controls are not yet sufficient or are not required under paragraph (f)(1)(iii) of this section to reduce exposure to or below the PELs; and

(iv) In emergencies.

(2) *Respirator selection.* (i) Where respirators are required or allowed under this section, the employer shall select and provide, at no cost to the employee, the appropriate respirator as specified in Table 1, and shall assure that the employee uses the respirator provided.

(ii) The employer shall select respirators from among those jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health under the provisions of 30 CFR part 11. Negative pressure respirators shall have filter elements approved by MSHA/NIOSH for organic vapors or benzene.

(iii) Any employee who cannot wear a negative pressure respirator shall be given the option of wearing a respirator with less breathing resistance such as a powered air-purifying respirator or supplied air respirator.

(3) *Respirator program.* The employer shall institute a respiratory protection program in accordance with 29 CFR 1926.103 (e), (g), (h) and (i).

(4) *Respirator use.* (i) Where air-purifying respirators are used, the employer shall replace the air purifying element at the expiration of service life or at the beginning of each shift in which they will be used, whichever comes first.

(ii) If an air purifying element becomes available with an end of useful life indicator for benzene approved by MSHA/NIOSH, the element may be used until such time as the indicator shows no further useful life.

(iii) The employer shall permit employees who wear respirators to leave the regulated area to wash their faces and respirator facepieces as necessary in order to prevent skin irritation associated with respirator use or to change the filter elements of air-purifying respirators whenever they detect a change in breathing resistance or chemical vapor breakthrough.

(5) *Respirator fit testing.* (i) The employer shall perform, and certify the results of, either quantitative or qualitative fit tests at the time of initial fitting and at least annually thereafter for each employee wearing a negative pressure respirator. The test shall be used to select a respirator facepiece which exhibits minimum leakage and provides the required protection as prescribed in Table 1. The employer shall provide and assure that the employee wears a respirator demonstrated by the fit test to provide the required protection.

(ii) The employer shall follow the test protocols outlined in Appendix E of this standard for whichever type of fit testing the employer chooses.

TABLE 1—RESPIRATORY PROTECTION FOR BENZENE

Airborne concentration of benzene or condition of use	Respirator type
(a) Less than or equal to 10 ppm.	(1) Half-mask air-purifying respirator with organic vapor cartridge.
(b) Less than or equal to 50 ppm.	(1) Full facepiece respirator with organic vapor cartridges. (1) Full facepiece gas mask with chin style canister.[1]
(c) Less than or equal to 100 ppm.	(1) Full facepiece powered air-purifying respirator with organic vapor canister.[1]
(d) Less than or equal to 1,000 ppm.	(1) Supplied air respirator with full facepiece in positive-pressure mode.
(e) Greater than 1,000 ppm or unknown concentration.	(1) Self-contained breathing apparatus with full facepiece in positive pressure mode. (2) Full facepiece positive- pressure supplied-air respirator with auxiliary self-contained air supply.
(f) Escape	(1) Any organic vapor gas mask; or (2) Any self-contained breathing apparatus with full facepiece.
(g) Firefighting	(1) Full facepiece self-contained breathing apparatus in positive pressure mode.

[1] Canisters must have a minimum service life of four (4) hours when tested at 150 ppm benzene, at a flow rate of 64 LPM, 25 °C, and 85% relative humidity for non-powered air purifying respirators. The flow rate shall be 115 LPM and 170 LPM respectively for tight fitting and loose fitting powered air-purifying respirators.

(h) *Protective clothing and equipment.* Personal protective clothing and equipment shall be worn where appropriate to prevent eye contact and limit dermal exposure to liquid benzene. Protective clothing and equipment shall be provided by the employer at no cost to the employee and the employer shall assure its use where appropriate. Eye and face protection shall meet the requirements of 29 CFR 1926.102.

(i) *Medical surveillance*—(1) *General.* (i) The employer shall make available a medical surveillance program for employees who are or may be exposed to benzene at or above the action level 30 or more days per year; for employees who are or may be exposed to benzene at or above the PELs 10 or more days per year; for employees who have been exposed to more than 10 ppm of benzene for 30 or more days in a year prior to the effective date of the standard when employed by their current employer; and for employees involved in the tire building operations called tire building machine operators, who use solvents containing greater than 0.1 percent benzene.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician and that all laboratory tests are conducted by an accredited laboratory.

(iii) The employer shall assure that persons other than licensed physicians who administer the pulmonary function testing required by this section shall complete a training course in spirometry sponsored by an appropriate governmental, academic or professional institution.

(iv) The employer shall assure that all examinations and procedures are provided without cost to the employee and at a reasonable time and place.

(2) *Initial examination.* (i) Within 60 days of the effective date of this standard, or before the time of initial assignment, the employer shall provide each employee covered by paragraph (i)(1)(i) of this section with a medical examination including the following elements:

(A) A detailed occupational history which includes:

(*1*) Past work exposure to benzene or any other hematological toxins,

(*2*) A family history of blood dyscrasias including hematological neoplasms;

(*3*) A history of blood dyscrasias including genetic hemoglobin abnormalities, bleeding abnormalities, abnormal function of formed blood elements;

(*4*) A history of renal or liver dysfunction;

(*5*) A history of medicinal drugs routinely taken;

(*6*) A history of previous exposure to ionizing radiation and

(*7*) Exposure to marrow toxins outside of the current work situation.

(B) A complete physical examination.

(C) *Laboratory tests.* A complete blood count including a leukocyte count with differential, a quantitative thrombocyte count, hematocrit, hemoglobin, erythrocyte count and erythrocyte indices (MCV, MCH, MCHC). The results of these tests shall be reviewed by the examining physician.

(D) Additional tests as necessary in the opinion of the examining physician, based on alterations to the components of the blood or other signs which may be related to benzene exposure; and

(E) For all workers required to wear respirators for at least 30 days a year, the physical examination shall pay special attention to the cardiopulmonary system and shall include a pulmonary function test.

(ii) No initial medical examination is required to satisfy the requirements of paragraph (i)(2)(i) of this section if adequate records show that the employee has been examined in

accordance with the procedures of paragraph (i)(2)(i) of this section within the twelve months prior to the effective date of this standard.

(3) *Periodic examinations.* (i) The employer shall provide each employee covered under paragraph (i)(1)(i) of this section with a medical examination annually following the previous examination. These periodic examinations shall incude at least the following elements:

(A) A brief history regarding any new exposure to potential marrow toxins, changes in medicinal drug use, and the appearance of physical signs relating to blood disorders:

(B) A complete blood count including a leukocyte count with differential, quantitative thrombocyte count, hemoglobin, hematocrit, erythrocyte count and erythrocyte indices (MCV, MCH, MCHC); and

(C) Appropriate additional tests as necessary, in the opinion of the examining physician, in consequence of alterations in the components of the blood or other signs which may be related to benzene exposure.

(ii) Where the employee develops signs and symptoms commonly associated with toxic exposure to benzene, the employer shall provide the employee with an additional medical examination which shall include those elements considered appropriate by the examining physician.

(iii) For persons required to use respirators for at least 30 days a year, a pulmonary function test shall be performed every three (3) years. A specific evaluation of the cardiopulmonary system shall be made at the time of the pulmonary function test.

(4) *Emergency examinations.* (i) In addition to the surveillance required by (i)(1)(i), if an employee is exposed to benzene in an emergency situation, the employer shall have the employee provide a urine sample at the end of the employee's shift and have a urinary phenol test performed on the sample within 72 hours. The urine specific gravity shall be corrected to 1.024.

(ii) If the result of the urinary phenol test is below 75 mg phenol/L of urine, no further testing is required.

(iii) If the result of the urinary phenol test is equal to or greater than 75 mg phenol/L of urine, the employer shall provide the employee with a complete blood count including an erythrocyte count, leukocyte count with differential and thrombocyte count at monthly intervals for a duration of three (3) months following the emergency exposure.

(iv) If any of the conditions specified in paragraph (i)(5)(i) of this section exists, then the further requirements of paragraph (i)(5) of this section shall be met and the employer shall, in addition, provide the employees with periodic examinations if directed by the physician.

(5) *Additional examinations and referrals.* (i) Where the results of the complete blood count required for the initial and periodic examinations indicate any of the following abnormal conditions exist, then the blood count shall be repeated within 2 weeks.

(A) The hemoglobin level or the hematocrit falls below the normal limit [outside the 95% confidence interval (C.I.)] as determined by the laboratory for the particular geographic area and/or these indices show a persistent downward trend from the individual's pre-exposure norms; provided these findings cannot be explained by other medical reasons.

(B) The thrombocyte (platelet) count varies more than 20 percent below the employee's most recent values or falls outside the normal limit (95% C.I.) as determined by the laboratory.

(C) The leukocyte count is below 4,000 per mm^3 or there is an abnormal differential count.

(ii) If the abnormality persists, the examining physician shall refer the employee to a hematologist or an internist for further evaluation unless the physician has good reason to believe such referral is unnecessary. (See Appendix C for examples of conditions where a referral may be unnecessary.)

(iii) The employer shall provide the hematologist or internist with the information required to be provided to the physician under paragraph (i)(6) of this section and the medical record required to be maintained by paragraph (k)(2)(ii) of this section.

(iv) The hematologist's or internist's evaluation shall include a determination as to the need for additional tests, and the employer shall assure that these tests are provided.

(6) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this regulation and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's actual or representative exposure level:

(iv) A description of any personal protective equipment used or to be used; and

(v) Information from previous employment-related medical examinations of the affected employee which is not otherwise available to the examining physician.

(7) *Physician's written opinions.* (i) For each examination under this section, the employer shall obtain and provide the employee with a copy of the examining physician's written opinion within 15 days of the examination. The written opinion shall be limited to the following information:

(A) The occupationally pertinent results of the medical examination and tests;

(B) The physician's opinion concerning whether the employee has any detected medical conditions which would place the employee's health at greater than normal risk of material impairment from exposure to benzene;

(C) The physician's recommended limitations upon the employee's exposure to benzene or upon the employee's use of protective clothing or equipment and respirators.

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions resulting from benzene exposure which require further explanation or treatment.

(ii) The written opinion obtained by the employer shall not reveal specific records, findings and diagnoses that have no bearing on the employee's ability to work in a benzene-exposed workplace.

(8) *Medical removal plan.* (i) When a physician makes a referral to a hematologist/internist as required under paragraph (i)(5)(ii) of this section, the employee shall be removed from areas where exposures may exceed the action level until such time as the physician makes a determination under paragraph (i)(8)(ii) of this section.

(ii) Following the examination and evaluation by the hematologist/internist, a decision to remove an employee from areas where benzene exposure is above the action level or to allow the employee to return to areas where benzene exposure is above the action level shall be made by the physician in consultation with the hematologist/internist. This decision shall be communicated in writing to the employer and employee. In the case of removal, the physician shall state the required probable duration of removal from occupational exposure to benzene above the action level and the requirements for future medical examinations to review the decision.

(iii) For any employee who is removed pursuant to paragraph (i)(8)(ii) of this section, the employer shall provide a follow-up examination. The physician, in consultation with the

hematologist/internist, shall make a decision within 6 months of the date the employee was removed as to whether the employee shall be returned to the usual job or whether the employee should be removed permanently.

(iv) Whenever an employee is temporarily removed from benzene exposure pursuant to paragraph (i)(8)(i) or (i)(8)(ii) of this section, the employer shall transfer the employee to a comparable job for which the employee is qualified (or can be trained for in a short period) and where benzene exposures are as low as possible, but in no event higher than the action level. The employer shall maintain the employee's current wage rate, seniority and other benefits. If there is no such job available, the employer shall provide medical removal protection benefits until such a job becomes available or for 6 months, whichever comes first.

(v) Whenever an employee is removed permanently from benzene exposure based on a physician's recommendation pursuant to paragraph (i)(8)(iii) of this section, the employee shall be given the opportunity to transfer to another position which is available or later becomes available for which the employee is qualified (or can be trained for in a short period) and where benzene exposures are as low as possible but in no event higher than the action level. The employer shall assure that such employee suffers no reduction in current wage rate, seniority or other benefits as a result of the transfer.

(9) *Medical removal protection benefits.* (i) The employer shall provide to an employee 6 months of medical removal protection benefits immediately following each occasion an employee is removed from exposure to benzene because of hematological findings pursuant to paragraphs (i)(8) (i) and (ii) of this section, unless the employee has been transferred to a comparable job where benzene exposures are below the action level.

(ii) For the purposes of this section, the requirement that an employer provide medical removal protection benefits means that the employer shall maintain the current wage rate, seniority and other benefits of an employee as though the employee had not been removed.

(iii) The employer's obligation to provide medical removal protection benefits to a removed employee shall be reduced to the extent that the employee receives compensation for earnings lost during the period of removal either from a publicly or employer-funded compensation program, or from employment with another employer made possible by virtue of the employee's removal.

(j) *Communication of benzene hazards to employees*—(1) *Signs and labels.* (i) The employer shall post signs at entrances to regulated areas. The signs shall bear the following legend:

DANGER
BENZENE
CANCER HAZARD
FLAMMABLE—NO SMOKING
AUTHORIZED PERSONNEL ONLY
RESPIRATOR REQUIRED

(ii) The employer shall ensure that lables or other appropriate forms of warning are provided for containers of benzene within the workplace. There is no requirement to label pipes. The labels shall comply with the requirements of 29 CFR 1926.59(f) and in addition shall include the following legend:

DANGER
CONTAINS BENZENE
CANCER HAZARD

(2) *Material safety data sheets.* (i) Employers shall obtain or develop, and shall provide access to their employees, to a material safety data sheet (MSDS) which addresses benzene and complies with 29 CFR 1926.59.

(ii) Employers who are manufacturers or importers shall:

(A) Comply with paragraph (a) of this section, and

(B) Comply with the requirement in OSHA's Hazard Communication Standard, 29 CFR 1926.59, that they deliver to downstream employers an MSDS which addresses benzene.

(3) *Information and training.* (i) The employer shall provide employees with information and training at the time of their initial assignment to a work area where benzene is present. If exposures are above the action level, employees shall be provided with information and training at least annually thereafter.

(ii) The training program shall be in accordance with the requirements of 29 CFR 1926.59(h) (1) and (2), and shall include specific information on benzene for each category of information included in that section.

(iii) In addition to the information required under 29 CFR 1926.59, the employer shall:

(A) Provide employees with an explanation of the contents of this section, including Appendices A and B, and indicate to them where the standard is available; and

(B) Describe the medical surveillance program required under paragraph (i) of this section, and explain the information contained in Appendix C.

(k) *Recordkeeping*—(1) *Exposure measurements.* (i) The employer shall establish and maintain an accurate record of all measurements required by paragraph (e) of this section, in accordance with 29 CFR 1926.33.

(ii) This record shall include:

(A) The dates, number, duration, and results of each of the samples taken, including a description of the procedure used to determine representative employee exposures;

(B) A description of the sampling and analytical methods used;

(C) A description of the type of respiratory protective devices worn, if any; and

(D) The name, social security number, job classification and exposure levels of the employee monitored and all other employees whose exposure the measurement is intended to represent.

(iii) The employer shall maintain this record for at least 30 years, in accordance with 29 CFR 1926.33.

(2) *Medical surveillance.* (i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance required by paragraph (i) of this section, in accordance with 29 CFR 1926.33.

(ii) This record shall include:

(A) The name and social security number of the employee;

(B) The employer's copy of the physician's written opinion on the initial, periodic and special examinations, including results of medical examinations and all tests, opinions and recommendations;

(C) Any employee medical complaints related to exposure to benzene;

(D) A copy of the information provided to the physician as required by paragraphs (i)(6) (ii) through (v) of this section; and

(E) A copy of the employee's medical and work history related to exposure to benzene or any other hematologic toxins.

(iii) The employer shall maintain this record for at least the duration of employment plus 30 years, in accordance with 29 CFR 1926.33.

(3) *Availability.* (i) The employer shall assure that all records required to be maintained by this section shall be made available upon request to the Assistant Secretary and the Director for examination and copying.

(ii) Employee exposure monitoring records required by this paragraph shall be provided upon request for examination and copying to employees, employee representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a) through (e) and (g) through (i).

(iii) Employee medical records required by this paragraph shall be provided upon request for examination

and copying, to the subject employee, to anyone having the specific written consent of the subject employee, and to the Assistant Secretary in accordance with 29 CFR 1926.33.

(4) *Transfer of records.* (i) The employer shall comply with the requirements involving transfer of records set forth in 29 CFR 1926.33(h).

(ii) If the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall notify the Director, at least three (3) months prior to disposal, and transmit them to the Director if required by the Director within that period.

(l) *Observation of monitoring*—(1) *Employee observation.* The employer shall provide affected employees, or their designated representatives, an opportunity to observe the measuring or monitoring of employee exposure to benzene conducted pursuant to paragraph (e) of this section.

(2) *Observation procedures.* When observation of the measuring or monitoring of employee exposure to benzene requires entry into areas where the use of protective clothing and equipment or respirators is required, the employer shall provide the observer with personal protective clothing and equipment or respirators required to be worn by employees working in the area, assure the use of such clothing and equipment or respirators, and require the observer to comply with all other applicable safety and health procedures.

(m) *Dates*—(1) *Effective date.* The standard shall become effective December 10, 1987.

(2) *Start-up dates.* (i) The requirements of paragraph (a) through (m) of this section, except the engineering control requirements of paragraph (f)(1) of this section shall be completed within sixty (60) days after the effective date of the standard.

(ii) Engineering and work practice controls required by paragraph (f)(1) of this section shall be implemented no later than 2 years after the effective date of the standard.

(iii) Coke and coal chemical operations may comply with paragraph (m)(2)(ii) of this section or alternately include within the compliance program required by paragraph (f)(2) of this section, a requirement to phase in engineering controls as equipment is repaired and replaced. For coke and coal chemical operations choosing the latter alternative, compliance with the engineering controls requirements of paragraph (f)(1) of this section shall be achieved no later than 5 years after the effective date of this standard and substantial compliance with the engineering control requirements shall be achieved within 3 years of the effective date of this standard.

(n) *Appendices.* The information contained in Appendices A, B, C, and D is not intended, by itself, to create any additional obligations not otherwise imposed or to detract from any existing obligations. The protocols on respiratory fit testing in Appendix E are mandatory.

(Approved by the Office of Management and Budget under control number 1218–0129)

Appendix A to § 1926.1128—Substance Safety Data Sheet, Benzene

I. Substance Identification

A. Substance: Benzene.

B. Permissible Exposure: Except as to the use of gasoline, motor fuels and other fuels subsequent to discharge from bulk terminals and other exemptions specified in § 1926.1128(a)(2):

1. Airborne: The maximum time-weighted average (TWA) exposure limit is 1 part of benzene vapor per million parts of air (1 ppm) for an 8-hour workday and the maximum short-term exposure limit (STEL) is 5 ppm for any 15-minute period.

2. Dermal: Eye contact shall be prevented and skin contact with liquid benzene shall be limited.

C. Appearance and odor: Benzene is a clear, colorless liquid with a pleasant, sweet odor. The odor of benzene does not provide adequate warning of its hazard.

II. Health Hazard Data

A. *Ways in which benzene affects your health.* Benzene can affect your health if you inhale it, or if it comes in contact with your skin or eyes. Benzene is also harmful if you happen to swallow it.

B. *Effects of overexposure.* 1. Short-term (acute) overexposure: If you are overexposed to high concentrations of benzene, well above the levels where its odor is first recognizable, you may feel breathless, irritable, euphoric, or giddy; you may experience irritation in eyes, nose, and respiratory tract. You may develop a headache, feel dizzy, nauseated, or intoxicated. Severe exposures may lead to convulsions and loss of consciousness.

2. Long-term (chronic) exposure. Repeated or prolonged exposure to benzene, even at relatively low concentrations, may result in various blood disorders, ranging from anemia to leukemia, an irreversible, fatal disease. Many blood disorders associated with benzene exposure may occur without symptoms.

III. Protective Clothing and Equipment

A. *Respirators.* Respirators are required for those operations in which engineering controls or work practice controls are not feasible to reduce exposure to the permissible level. However, where employers can document that benzene is present in the workplace less than 30 days a year, respirators may be used in lieu of engineering controls. If respirators are worn, they must have joint Mine Safety and Health Administration and the National Institute for Occupational Safety and Health (NIOSH) seal of approval, and cartridge or canisters must be replaced before the end of their service life, or the end of the shift, whichever occurs first. If you experience difficulty breathing while wearing a respirator, you may request a positive pressure respirator from your employer. You must be thoroughly trained to use the assigned respirator, and the training will be provided by your employer.

B. *Protective Clothing.* You must wear appropriate protective clothing (such as boots, gloves, sleeves, aprons, etc.) over any parts of your body that could be exposed to liquid benzene.

C. *Eye and Face Protection.* You must wear splash-proof safety goggles if it is possible that benzene may get into your eyes. In addition, you must wear a face shield if your face could be splashed with benzene liquid.

IV. Emergency and First Aid Procedures

A. *Eye and face exposure.* If benzene is splashed in your eyes, wash it out immediately with large amounts of water. If irritation persists or vision appears to be affected see a doctor as soon as possible.

B. *Skin exposure.* If benzene is spilled on your clothing or skin, remove the contaminated clothing and wash the exposed skin with large amounts of water and soap immediately. Wash contaminated clothing before you wear it again.

C. *Breathing.* If you or any other person breathes in large amounts of benzene, get the exposed person to fresh air at once. Apply artificial respiration if breathing has stopped. Call for medical assistance or a doctor as soon as possible. Never enter any vessel or confined space where the benzene concentration might be high without proper safety equipment and at least one other person present who will stay outside. A life line should be used.

D. *Swallowing.* If benzene has been swallowed and the patient is conscious, do not induce vomiting. Call for medical assistance or a doctor immediately.

V. Medical Requirements

If you are exposed to benzene at a concentration at or above 0.5 ppm as an 8-hour time-weighted average, or have been exposed at or above 10 ppm in the past while employed by your current employer, your employer is required to provide a medical examination and history and laboratory tests within 60 days of the effective date of this standard and annually thereafter. These tests shall be provided without cost to you. In addition, if you are accidentally exposed to benzene (either by ingestion, inhalation, or skin/eye contact) under emergency conditions known or suspected to constitute toxic exposure to benzene, your employer is required to make special laboratory tests available to you.

VI. Observation of Monitoring

Your employer is required to perform measurements that are representative of your exposure to benzene and you or your designated representative are entitled to observe the monitoring procedure. You are entitled to observe the steps taken in the measurement procedure, and to record the results obtained. When the monitoring

procedure is taking place in an area where respirators or personal protective clothing and equipment are required to be worn, you or your representative must also be provided with, and must wear the protective clothing and equipment.

VII. Access to Records

You or your representative are entitled to see the records of measurements of your exposure to benzene upon written request to your employer. Your medical examination records can be furnished to yourself, your physician or designated representative upon request by you to your employer.

VIII. Precautions for Safe Use, Handling and Storage

Benzene liquid is highly flammable. It should be stored in tightly closed containers in a cool, well ventilated area. Benzene vapor may form explosive mixtures in air. All sources of ignition must be controlled. Use nonsparking tools when opening or closing benzene containers. Fire extinguishers, where provided, must be readily available. Know where they are located and how to operate them. Smoking is prohibited in areas where benzene is used or stored. Ask your supervisor where benzene is used in your area and for additional plant safety rules.

Appendix B to § 1926.1128—Substance Technical Guidlines, Benzene

I. Physical and Chemical Data

A. Substance identification.

1. *Synonyms:* Benzol, benzole, coal naphtha, cyclohexatriene, phene, phenyl hydride, pyrobenzol. (Benzin, petroleum benzin and Benzine do not contain benzene).

2. *Formula:* C_6H_6 (CAS Registry Number: 71–43–2)

B. Physical data.

1. Boiling Point (760 mm Hg): 80.1 °C (176 °F)

2. Specific Gravity (water=1): 0.879

3. Vapor Density (air=1): 2.7

4. Melting Point: 5.5 °C (42 °F)

5. Vapor Pressure at 20 °C (68 °F): 75 mm Hg

6. Solubility in Water: .06%

7. Evaporation Rate (ether=1): 2.8

8. Appearance and Odor: Clear, colorless liquid with a distinctive sweet odor.

II. Fire, Explosion, and Reactivity Hazard Data

A. Fire.

1. Flash Point (closed cup): −11 °C (12 °F)

2. Autoignition Temperature: 580 °C (1076 °F)

3. Flammable limits in Air. % by Volume: Lower: 1.3%, Upper: 7.5%

4. Extinguishing Media: Carbon dioxide, dry chemical, or foam.

5. Special Fire-Fighting procedures: Do not use solid stream of water, since stream will scatter and spread fire. Fine water spray can be used to keep fire-exposed containers cool.

6. Unusual fire and explosion hazards: Benzene is a flammable liquid. Its vapors can form explosive mixtures. All ignition sources must be controlled when benzene is used, handled, or stored. Where liquid or vapor may be released, such areas shall be considered as hazardous locations. Benzene vapors are heavier than air; thus the vapors may travel along the ground and be ignited by open flames or sparks at locations remote from the site at which benzene is handled.

7. Benzene is classified as a 1 B flammable liquid for the purpose of conforming to the requirements of 29 CFR 1926.152. A concentration exceeding 3,250 ppm is considered a potential fire explosion hazard.

B. Reactivity.

1. Conditions contributing to instability: Heat.

2. Incompatibility: Heat and oxidizing materials.

3. Hazardous decomposition products: Toxic gases and vapors (such as carbon monoxide).

III. Spill and Leak Procedures

A. Steps to be taken if the material is released or spilled. As much benzene as possible should be absorbed with suitable materials, such as dry sand or earth. That remaining must be flushed with large amounts of water. Do not flush benzene into a confined space, such as a sewer, because of explosion danger. Remove all ignition sources. Ventilate enclosed places.

B. Waste disposal method. Disposal methods must conform to other jurisdictional regulations. If allowed, benzene may be disposed of: (a) By absorbing it in dry sand or earth and disposing in a sanitary landfill; (b) if small quantities, by removing it to a safe location from buildings or other combustible sources, pouring it in dry sand or earth and cautiously igniting it; and (c) if large quantities, by atomizing it in a suitable combustion chamber.

IV. Miscellaneous Precautions

A. High exposure to benzene can occur when transferring the liquid from one container to another. Such operations should be well ventilated and good work practices must be established to avoid spills.

B. Use non-sparking tools to open benzene containers which are effectively grounded and bonded prior to opening and pouring.

C. Employers must advise employees of all plant areas and operations where exposure to benzene could occur. Common operations in which high exposures to benzene may be encountered are: the primary production and utilization of benzene, and transfer of benzene.

Appendix C to § 1926.1128—Medical Surveillance Guidelines for Benzene

I. Route of Entry

Inhalation; skin absorption.

II. Toxicology

Benzene is primarily an inhalation hazard. Systemic absorption may cause depression of the hematopoietic system, pancytopenia, aplastic anemia, and leukemia. Inhalation of high concentrations can affect central nervous system function. Aspiration of small amounts of liquid benzene immediately causes pulmonary edema and hemorrhage of pulmonary tissue. There is some absorption through the skin. Absorption may be more rapid in the case of abraded skin, and benzene may be more readily absorbed if it is present in a mixture or as a contaminant in solvents which are readily absorbed. The defatting action of benzene may produce primary irritation due to repeated or prolonged contact with the skin. High concentration are irritating to the eyes and the mucuous membranes of the nose, and respiratory tract.

III. Signs and Symptoms

Direct skin contact with benzene may cause erythema. Repeated or prolonged contact may result in drying, scaling dermatitis, or development of secondary skin infections. In addition, there is benzene absorption through the skin. Local effects of benzene vapor or liquid on the eye are slight. Only at very high concentrations is there any smarting sensation in the eye. Inhalation of high concentrations of benzene may have an initial stimulatory effect on the central nervous system characterized by exhilaration, nervous excitation, and/or giddiness, followed by a period of depression, drowsiness, or fatigue. A sensation of tightness in the chest accompanied by breathlessness may occur and ultimately the victim may lose consciousness. Tremors, convulsions and death may follow from respiratory paralysis or circulatory collapse in a few minutes to several hours following severe exposures.

The detrimental effect on the blood-forming system of prolonged exposure to small quantities of benzene vapor is of extreme importance. The hematopoietic system is the chief target for benzene's toxic effects which are manifested by alterations in the levels of formed elements in the peripheral blood. These effects have occurred at concentrations of benzene which may not cause irritation of mucous membranes, or any unpleasant sensory effects. Early signs and symptoms of benzene morbidity are varied, often not readily noticed and non-specific. Subjective complaints of headache, dizziness, and loss of appetite may precede or follow clinical signs. Rapid pulse and low blood pressure, in addition to a physical appearance of anemia, may accompany a subjective complaint of shortness of breath and excessive tiredness. Bleeding from the nose, gums, or mucous membranes, and the development of purpuric spots (small bruises) may occur as the condition progresses. Clinical evidence of leukopenia, anemia, and thrombocytopenia, singly or in combination, has been frequently reported among the first signs.

Bone marrow may appear normal, aplastic, or hyperplastic, and may not, in all situations, correlate with peripheral blood forming tissues. Because of variations in the susceptibility to benzene morbidity, there is no "typical" blood picture. The onset of effects of prolonged benzene exposure may be delayed for many months or years after the actual exposure has ceased and identification or correlation with benzene exposure must be sought out in the occupational history.

IV. Treatment of Acute Toxic Effects

Remove from exposure immediately. Make sure you are adequately protected and do not risk being overcome by fumes. Give oxygen or artificial resuscitation if indicated. Flush eyes, wash skin if contaminated and remove

all contaminated clothing. Symptoms of intoxication may persist following severe exposures. Recovery from mild exposures is usually rapid and complete.

V. Surveillance and Preventive Considerations

A. General

The principal effects of benzene exposure which form the basis for this regulation are pathological changes in the hematopoietic system, reflected by changes in the peripheral blood and manifesting clinically as pancytopenia, aplastic anemia, and leukemia. Consequently, the medical surveillance program is designed to observe, on a regular basis, blood indices for early signs of these effects, and although early signs of leukemia are not usually available, emerging diagnostic technology and innovative regimes make consistent surveillance for leukemia, as well as other hematopoietic effects, essential.

Initial examinations are to be provided within 60 days of the effective date of this standard, or at the time of initial assignment, and periodic examinations annually thereafter. There are special provisions for medical tests in the event of hematologic abnormalities or for emergency situations.

The blood values which require referral to a hematologist or internist are noted in the standard in paragraph (i)(5). The standard specifies that blood abnormalities that persist must be referred "unless the physician has good reason to believe such referral is unnecessary" (paragraph (i)(5)). Examples of conditions that could make a referral unnecessary despite abnormal blood limits are iron or folate deficiency, menorrhagia, or blood loss due to some unrelated medical abnormality.

Symptoms and signs of benzene toxicity can be non-specific. Only a detailed history and appropriate investigative procedures will enable a physician to rule out or confirm conditions that place the employee at increased risk. To assist the examining physician with regard to which laboratory tests are necessary and when to refer an employee to the specialist, OSHA has established the following guidelines.

B. Hematology Guidelines

A minimum battery of tests is to be performed by strictly standardized methods.

1. Red cell, white cell, platelet counts, white blood cell differential, hematacrit and red cell indices must be performed by an accredited laboratory. The normal ranges for the red cell and white cell counts are influenced by altitude, race, and sex, and therefore should be determined by the accredited laboratory in the specific area where the tests are performed.

Either a decline from an absolute normal or an individual's base line to a subnormal value or a rise to a supra-normal value, are indicative of potential toxicity, particularly if all blood parameters decline. The normal total white blood count is approximately 7,200/mm^3 plus or minus 3,000. For cigarette smokers the white count may be higher and the upper range may be 2,000 cells higher than normal for the laboratory. In addition, infection, allergies and some drugs may raise the white cell count. The normal platelet count is approximately 250,000 with a range of 140,000 to 400,000. Counts outside this range should be regarded as possible evidence of benzene toxicity.

Certain abnormalities found through routine screening are of greater significance in the benzene-exposed worker and require prompt consultation with a specialist, namely:

a. Thrombocytopenia.

b. A trend of decreasing white cell, red cell, or platelet indices in an individual over time is more worrisome than an isolated abnormal finding at one test time. The importance of trend highlights the need to compare an individual's test results to baseline and/or previous periodic tests.

c. A constellation or pattern of abnormalities in the different blood indices is of more significance than a single abnormality. A low white count not associated with any abnormalities in other cell indices may be a normal statistical variation, whereas if the low white count is accompanied by decreases in the platelet and/or red cell indices, such a pattern is more likely to be associated with benzene toxicity and merits thorough investigation.

Anemia, leukopenia, macrocytosis or an abnormal differential white blood cell count should alert the physician to further investigate and/or refer the patient if repeat tests confirm the abnormalities. If routine screening detects an abnormality, follow-up tests which may be helpful in establishing the etiology of the abnormality are the peripheral blood smear and the reticulocyte count.

The extreme range of normal for reticulocytes is 0.4 to 2.5 percent of the red cells, the usual range being 0.5 to 1.2 percent of the red cells, but the typical value is in the range of 0.8 to 1.0 percent. A decline in reticulocytes to levels of less than 0.4 percent is to be regarded as possible evidence (unless another specific cause is found) of benzene toxicity requiring accelerated surveillance. An increase in reticulocyte levels to about 2.5 percent may also be consistent with (but is not as characteristic of) benzene toxicity.

2. An important diagnostic test is a careful examination of the peripheral blood smear. As with reticulocyte count the smear should be with fresh uncoagulated blood obtained from a needle tip following venipuncture or from a drop of earlobe blood (capillary blood). If necessary, the smear may, under certain limited conditions, be made from a blood sample anticoagulated with EDTA (but never with oxalate or heparin). When the smear is to be prepared from a specimen of venous blood which has been collected by a commercial Vacutainer® type tube containing neutral EDTA, the smear should be made as soon as possible after the venesection. A delay of up to 12 hours is permissible between the drawing of the blood specimen into EDTA and the preparation of the smear if the blood is stored at refrigerator (not freezing) temperature.

3. The minimum mandatory observations to be made from the smear are:

a. The differential white blood cell count.

b. Description of abnormalities in the appearance of red cells.

c. Description of any abnormalities in the platelets.

d. A careful search must be made throughout of every blood smear for immature white cells such as band forms (in more than normal proportion, i.e., over 10 percent of the total differential count), any number of metamyelocytes, myelocytes or myeloblasts. Any nucleate or multinucleated red blood cells should be reported. Large "giant" platelets or fragments of megakaryocytes must be recognized.

An increase in the proportion of band forms among the neutrophilic granulocytes is an abnormality deserving special mention, for it may represent a change which should be considered as an early warning of benzene toxicity in the absence of other causative factors (most commonly infection). Likewise, the appearance of metamyelocytes, in the absence of another probable cause, is to be considered a possible indication of benzene-induced toxicity.

An upward trend in the number of basophils, which normally do not exceed about 2.0 percent of the total white cells, is to be regarded as possible evidence of benzene toxicity. A rise in the eosinophil count is less specific but also may be suspicious of toxicity if the rises above 6.0 percent of the total white count.

The normal range of monocytes is from 2.0 to 8.0 percent of the total white count with an average of about 5.0 percent. About 20 percent of individuals reported to have mild but persisting abnormalities caused by exposure to benzene show a persistent monocytosis. The findings of a monocyte count which persists at more than 10 to 12 percent of the normal white cell count (when the total count is normal) or persistence of an absolute monocyte count in excess of 800/mm^3 should be regarded as a possible sign of benzene-induced toxicity.

A less frequent but more serious indication of benzene toxicity is the finding in the peripheral blood of the so-called "pseudo" (or acquired) Pelger-Huet anomaly. In this anomaly many, or sometimes the majority, of the neutrophilic granulocytes possess two round nuclear segements—less often one or three round segments—rather than three normally elongated segments. When this anomaly is not hereditary, it is often but not invariably predictive of subsequent leukemia. However, only about two percent of patients who ultimately develop acute myelogenous leukemia show the acquired Pelger-Huet anomaly. Other tests that can be administered to investigate blood abnormalities are discussed below; however, such procedures should be undertaken by the hematologist.

An uncommon sign, which cannot be detected from the smear, but can be elicited by a "sucrose water test" of peripheral blood, is transient paroxysmal nocturnal hemoglobinuria (PNH), which may first occur insidiously during a period of established aplastic anemia, and may be followed within one to a few years by the appearance of rapidly fatal acute myelogenous leukemia. Clinical detection of PNH, which occurs in only one or two percent of those destined to have acute myelogenous leukemia, may be difficult; if the "sucrose water test" is

positive, the somewhat more definitive Ham test, also known as the acid-serum hemolysis test, may provide confirmation.

e. Individuals documented to have developed acute myelogenous leukemia years after initial exposure to benzene may have progressed through a preliminary phase of hematologic abnormality. In some instances pancytopenia (i.e., a lowering in the counts of all circulating blood cells of bone marrow origin, but not to the extent implied by the term "aplastic anemia") preceded leukemia for many years. Depression of a single blood cell type or platelets may represent a harbinger of aplasia or leukemia. The finding of two or more cytopenias, or pancytopenia in a benzene-exposed individual, must be regarded as highly suspicious of more advanced although still reversible, toxicity. "Pancytopenia" coupled with the appearance of immature cells (myelocytes, myeloblasts, erythroblasts, etc.), with abnormal cells (pseudo Pelger-Huet anomaly, atypical nuclear heterochromatin, etc.), or unexplained elevations of white blood cells must be regarded as evidence of benzene overexposure unless proved otherwise. Many severely aplastic patients manifested the ominous finding of 5–10 percent myeloblasts in the marrow, occasional myeloblasts and myelocytes in the blood and 20–30% monocytes. It is evident that isolated cytopenias, pancytopenias, and even aplastic anemias induced by benzene may be reversible and complete recovery has been reported on cessation of exposure. However, since any of these abnormalities is serious, the employee must immediately be removed from any possible exposure to benzene vapor. Certain tests may substantiate the employee's prospects for progression or regression. One such test would be an examination of the bone marrow, but the decision to perform a bone marrow aspiration or needle biopsy is made by the hematologist.

The findings of basophilic stippling in circulating red blood cells (usually found in 1 to 5% of red cells following marrow injury), and detection in the bone marrow of what are termed "ringed sideroblasts" must be taken seriously, as they have been noted in recent years to be premonitory signs of subsequent leukemia.

Recently peroxidase-staining of circulating or marrow neutrophil granulocytes, employing benzidine dihydrochloride, have revealed the disappearance of, or diminution in, peroxidase in a sizable proportion of the granulocytes, and this has been reported as an early sign of leukemia. However, relatively few patients have been studied to date. Granulocyte granules are normally strongly peroxidase positive. A steady decline in leukocyte alkaline phosphatase has also been reported as suggestive of early acute leukemia. Exposure to benzene may cause an early rise in serum iron, often but not always associated with a fall in the reticulocyte count. Thus, serial measurements of serum iron levels may provide a means of determining whether or not there is a trend representing sustained suppression of erythropoiesis.

Measurement of serum iron, determination of peroxidase and of alkaline phosphatase activity in peripheral granulocytes can be performed in most pathology laboratories. Peroxidase and alkaline phosphatase staining are usually undertaken when the index of suspecion for leukemia is high.

Appendix D to § 1926.1128—Sampling and Analytical Methods for Benzene Monitoring and Measurement Procedures

Measurements taken for the purpose of determining employee exposure to benzene are best taken so that the representative average 8-hour exposure may be determined from a single 8-hour sample or two (2) 4-hour samples. Short-time interval samples (or grab samples) may also be used to determine average exposure level if a minimum of five measurements are taken in a random manner over the 8-hour work shift. Random sampling means that any portion of the work shift has the same change of being sampled as any other. The arithmetic average of all such random samples taken on one work shift is an estimate of an employee's average level of exposure for that work shift. Air samples should be taken in the employee's breathing zone (air that would most nearly represent that inhaled by the employee). Sampling and analysis must be performed with procedures meeting the requirements of the standard.

There are a number of methods available for monitoring employee exposures to benzene. The sampling and analysis may be performed by collection of the benzene vaptor or charcoal absorption tubes, with subsequent chemical analysis by gas chromatography. Sampling and analysis may also be performed by portable direct reading instruments, real-time continuous monitoring systems, passive dosimeters or other suitable methods. The employer has the obligation of selecting a monitoring method which meets the accuracy and precision requirements of the standard under his unique field conditions. The standard requires that the method of monitoring must have an accuracy, to a 95 percent confidence level, of not less than plus or minus 25 percent for concentrations of benzene greater than or equal to 0.5 ppm.

The OSHA Laboratory modified NIOSH Method S311 and evaluated it at a benzene air concentration of 1 ppm. A procedure for determining the benzene concentration in bulk material samples was also evalauted. This work, reported in OSHA Laboratory Method No. 12, includes the following two analytical procedures:

I. OSHA Method 12 for Air Samples

Analyte: Benzene
Matrix: Air
Procedure: Adsorption on charcoal, desorption with carbon disulfide, analysis by GC.
Detection limit: 0.04 ppm
Recommended air volume and sampling rate: 10L to 0.2 L/min.

1. Principle of the Method.

1.1 A known volume of air is drawn through a charcoal tube to trap the organic vapors present.

1.2. The charcoal in the tube is transferred to a small, stoppered vial, and the anlyte is desorbed with carbon disulfide.

1.3. An aliquot of the desorbed sample is injected into a gas chromatograph.

1.4 The area of the resulting peak is determined and compared with areas obtained from standards.

2. Advantages and disadvantages of the method.

2.1 The sampling device is small, portable, and involved no liquids. Interferences are minimal, and most of those which do occur can be eliminated by altering chromatographic conditions. The samples are analyzed by means of a quick, instrumental method.

2.2 The amount of sample which can be taken is limited by the number of milligrams that the tube will hold before overloading. When the sample value obtained for the backup section of the charcoal tube exceeds 25 percent of that found on the front section, the possibility of sample loss exists.

3. Apparatus.

3.1 A calibrated personal sampling pump whose flow can be determined within ±5 percent at the recommended flow rate.

3.2. Charcoal tubes: Glass with both ends flame sealed, 7 cm long with a 6-mm O.D. and a 4-mm I.D., containing 2 sections of 20/40 mesh activated charcoal separated by a 2-mm portion of urethane foam. The activated charcoal is prepared from coconut shells and is fired at 600° C prior to packing. The adsorbing section contains 100 mg of charcoal, the back-up section 50 mg. A 3-mm portion of urethane foam is placed between the outlet end of the tube and the back-up section. A plug of silanized glass wool is placed in front of the adsorbing section. The pressure drop across the tube must be less than one inch of mercury at a flow rate of 1 liter per minute.

3.3. Gas chromatograph equipped with a flame ionization detector.

3.4. Column (10-ft × ⅛-in stainless steel) packed with 80/100 Supelcoport coated with 20 percent SP 2100, 0.1 percent CW 1500.

3.5. An electronic integrator or some other suitable method for measuring peak area.

3.6. Two-milliliter sample vials with Teflon-lined caps.

3.7. Microliter syringes: 10-microliter (10-μL syringe, and other convenient sizes for making standards, 1-μL syringe for sample injections.

3.8. Pipets: 1.0 mL delivery pipets

3.9. Volumetric flasks: convenient sizes for making standard solutions.

4. Reagents.

4.1. Chromatographic quality carbon disulfide (CS_2). Most commercially available carbon disulfide contains a trace of benzene which must be removed. It can be removed with the following procedure:

Heat under reflux for 2 to 3 hours, 500 mL of carbon disulfide, 10 mL concentrated sulfuric acid, and 5 drops of concentrated nitric acid. The benzene is converted to nitrobenzene. The carbon disulfide layer is removed, dried with anhydrous sodium sulfate, and distilled. The recovered carbon disulfide should be benzene free. (It has recently been determined that benzene can also be removed by passing the carbon disulfide through 13x molecular sieve).

4.2. Benzene, reagent grade.

4.3. p-Cymene, reagent grade, (internal standard).

4.4. Desorbing reagent. The desorbing reagent is prepared by adding 0.05 mL of p-cymene per milliliter of carbon disulfide. (The internal standard offers a convenient means correcting analytical response for slight inconsistencies in the size of sample injections. If the external standard technique is preferred, the internal standard can be eliminated).

4.5. Purified GC grade helium, hydrogen and air.

5. Procedure.

5.1. Cleaning of equipment. All glassware used for the laboratory analysis should be properly cleaned and free of organics which could interfere in the analysis.

5.2. Calibration of personal pumps. Each pump must be calibrated with a representative charcoal tube in the line.

5.3. Collection and shipping of samples.

5.3.1. Immediately before sampling, break the ends of the tube to provide an opening at least one-half the internal diameter of the tube (2 mm).

5.3.2. The smaller section of the charcoal is used as the backup and should be placed nearest the sampling pump.

5.3.3. The charcoal tube should be placed in a vertical position during sampling to minimize channeling through the charcoal.

5.3.4 Air being sampled should not be passed through any hose or tubing before entering the charcoal tube.

5.3.5. A sample size of 10 liters is recommended. Sample at a flow rate of approximately 0.2 liters per minute. The flow rate should be known with an accuracy of at least ±5 percent.

5.3.6. The charcoal tubes should be capped with the supplied plastic caps immediately after sampling.

5.3.7. Submit at least one blank tube (a charcoal tube subjected to the same handling procedures, without having any air drawn through it) with each set of samples.

5.3.8. Take necessary shipping and packing precautions to minimize breakage of samples.

5.4. Analysis of samples.

5.4.1. Preparation of samples. In preparation for analysis, each charcoal tube is scored with a file in front of the first section of charcoal and broken open. The glass wool is removed and discarded. The charcoal in the first (larger) section is transferred to a 2-ml vial. The separating section of foam is removed and discarded; the second section is transferred to another capped vial. These two sections are analyzed separately.

5.4.2. Desorption of samples. Prior to analysis, 1.0 mL of desorbing solution is pipetted into each sample container. The desorbing solution consists of 0.05 µL internal standard per mL of carbon disulfide. The sample vials are capped as soon as the solvent is added. Desorption should be done for 30 minutes with occasional shaking.

5.4.3. GC conditions. Typical operating conditions for the gas chromatograph are:

1.30 mL/min (60 psig) helium carrier gas flow.

2.30 mL/min (40 psig) hydrogen gas flow to detector.

3.240 mL/min (40 psig) air flow to detector.

4.150 °C injector temperature.

5.250 °C detector temperature.

6.100 °C column temperature.

5.4.4. Injection size. 1 µL.

5.4.5. Measurement of area. The peak areas are measured by an electronic integrator or some other suitable form of area measurement.

5.4.6. An internal standard procedure is used. The integrator is calibrated to report results in ppm for a 10 liter air sample after correction for desorption efficiency.

5.5. Determination of desorption efficiency.

5.5.1. Importance of determination. The desorption efficiency of a particular compound can vary from one laboratory to another and from one lot of chemical to another. Thus, it is necessary to determine, at least once, the percentage of the specific compound that is removed in the desorption process, provided the same batch of charcoal is used.

5.5.2. Procedure for determining desorption efficiency. The reference portion of the charcoal tube is removed. To the remaining portion, amounts representing 0.5X, 1X, and 2X and (X represents target concentration) based on a 10 L air sample are injected into several tubes at each level. Dilutions of benzene with carbon disulfide are made to allow injection of measurable quantities. These tubes are then allowed to equilibrate at least overnight. Following equilibration they are analyzed following the same procedure as the samples. Desorption efficiency is determined by dividing the amount of benzene found by amount spiked on the tube.

6. Calibration and standards. A series of standards varying in concentration over the range of interest is prepared and analyzed under the same GC conditions that will be used on the samples. A calibration curve is prepared by plotting concentration (µg/mL) versus peak area.

7. Calculations. Benzene air concentration can be calculated from the following equation:

$mg/m^3=(A)(B)/(C)(D)$

Where: A=µg/mL benzene, obtained from the calibration curve

B=desorption volume (1 mL)

C=Liters of air sampled

D=desorption efficiency

The concentration in mg/m^3 can be converted to ppm (at 25° and 760 mm) with following equation:

$ppm=(mg/m^3)(24.46)/(78.11)$

Where: 24.46=molar volume of an ideal gas 25 °C and 760 mm

78.11=molecular weight of benzene

8. Backup Data.

8.1 Detection limit—Air Samples.

The detection limit for the analytical procedure is 1.28 ng with a coefficient of variation of 0.023 at this level. This would be equivalent to an air concentration of 0.04 ppm for a 10 L air sample. This amount provided a chromatographic peak that could be identifiable in the presence of possible interferences. The detection limit data were obtained by making 1 µL injections of a 1.283 µg/mL standard.

Injection	Area Count	
1	655.4	
2	617.5D	
3	662.0	$\bar{X}$=640.2
4	641.1	SD=14.9
5	636.4	CV=0.023
6	629.2	

8.2. Pooled coefficient of variation—Air Samples. The pooled coefficient of variation for the analytical procedure was determined by 1 µL replicate injections of analytical standards. The standards were 16.04, 32.08, and 64.16 µg/mL, which are equivalent to 0.5, 1.0, and 2.0 ppm for a 10 L air sample respectively.

Injection	Area Counts		
	0.5 ppm	1.0 ppm	2.0 ppm
1	3996.5	8130.2	16481
2	4059.4	8235.6	16493
3	4052.0	8307.9	16535
4	4027.2	8263.2	16609
5	4046.8	8291.1	16552
6	4137.9	8268.8	16618
$\bar{X}$=	4053.3	8254.0	16548.3
SD=	47.2	62.5	57.1
CV=	0.0116	0.0076	0.0034
CV=0.008	.....	.....	.....

8.3. Storage data—Air Samples

Samples were generated at 1.03 ppm benzene at 80% relative humidity, 22 °C, and 643 mm. All samples were taken for 50 minutes at 0.2 L/min. Six samples were analyzed immediately and the rest of the samples were divided into two groups by fifteen samples each. One group was stored at refrigerated temperature of − 25 °C, and the other group was stored at ambient temperature (approximately 23 °C). These samples were analyzed over a period of fifteen days. The results are tabulated below.

PERCENT RECOVERY

Day analyzed	Refrigerated			Ambient		
0	97.4	98.7	98.9	97.4	98.7	98.9
0	97.1	100.6	100.9	97.1	100.6	100.9
2	95.8	96.4	95.4	95.4	96.6	96.9
5	93.9	93.7	92.4	92.4	94.3	94.[illegible]

PERCENT RECOVERY—Continued

Day analyzed	Refrigerated			Ambient		
9	93.6	95.5	94.6	95.2	95.6	96.6
13	94.3	95.3	93.7	91.0	95.0	94.6
15	96.8	95.8	94.2	92.9	96.3	95.9

8.4. Desorption data.

Samples were prepared by injecting liquid benzene onto the A section of charcoal tubes. Samples were prepared that would be equivalent to 0.5, 1.0, and 2.0 ppm for a 10 L air sample.

PERCENT RECOVERY

Sample	0.5 ppm	1.0 ppm	2.0 ppm
1	99.4	98.8	99.5
2	99.5	98.7	99.7
3	99.2	98.6	99.8
4	99.4	99.1	100.0
5	99.2	99.0	99.7
6	99.8	99.1	99.9
$\bar{X}$=	99.4	98.9	99.8
SD=	0.22	0.21	0.18
CV=	0.0022	0.0021	0.0018
$\bar{X}$=99.4			

8.5. Carbon disulfide.

Carbon disulfide from a number of sources was analyzed for benzene contamination. The results are given in the following table. The benzene contamiant can be removed with the procedures given in section 4.1.

Sample	µg Benzene/mL	ppm equivalent (for 10 L air sample)
Aldrich Lot 83017	4.20	0.13
Baker Lot 720364	1.01	0.03
Baker Lot 822351	1.01	0.03
Malinkrodt Lot WEMP	1.74	0.05
Malinkrodt Lot WDSJ	5.65	0.18
Malinkrodt Lot WHGA	2.90	0.09
Treated CS_2	.....	.....

II. OSHA Laboratory Method No. 12 for Bulk Samples

Analyte: Benzene.

Matrix: Bulk Samples.

Procedure: Bulk Samples are analyzed directly by high performance liquid chromatography (HPLC).

Detection limits: 0.01% by volume.

1. Principle of the method.

1.1. An aliquot of the bulk sample to be analyzed is injected into a liquid chromatograph.

1.2. The peak area for benzene is determined and compared to areas obtained from standards.

2. Advantages and disadvantages of the method.

2.1. The analytical procedure is quick, sensitive, and reproducible.

2.2. Reanalysis of samples is possible.

2.3. Interferences can be circumvented by proper selection of HPLC parameters.

2.4. Samples must be free of any particulates that may clog the capillary tubing in the liquid chromatograph. This may require distilling the sample or clarifying with a clarification kit.

3. Apparatus.

3.1. Liquid chromatograph equipped with a UV detector.

3.2. HPLC Column that will separate benzene from other components in the bulk sample being analyzed. The column used for validation studies was a Waters uBondapack C18, 30 cm x 3.9 mm.

3.3. A clarification kit to remove any particulates in the bulk if necessary.

3.4. A micro-distillation apparatus to distill any samples if necessary.

3.5. An electronic integrator or some other suitable method of measuring peak areas.

3.6. Microliter syringes—10 µL syringe and other convenient sizes for making standards. 10 µL syringe for sample injections.

3.7. Volumetric flasks, 5 mL and other convenient sizes for preparing standards and making dilutions.

4. Reagents.

4.1. Benzene, reagent grade.

4.2. HPLC grade water, methyl alcohol, and isopropyl alcohol.

5. Collection and shipment of samples.

5.1. Samples should be transported in glass containers with Teflon-lined caps.

5.2. Samples should not be put in the same container used for air samples.

6. Analysis of samples.

6.1. Sample preparation.

If necessary, the samples are distilled or clarified. Samples are analyzed undiluted. If the benzene concentration is out of the working range, suitable dilutions are made with isopropyl alcohol.

6.2. HPLC conditions.

The typical operating conditions for the high performance liquid chromatograph are:

1. Mobile phase—Methyl alcohol/water, 50/50

1. Analytical wavelength—254 nm

3. Injection size—10 µL

6.3. Measurement of peak area and calibration.

Peak areas are measured by an integrator or other suitable means. The integrator is calibrated to report results % in benzene by volume.

7. Calculations.

Since the integrator is programmed to report results in % benzene by volume in an undiluted sample, the following equation is used:

% Benzene by Volume=A x B

Where: A=% by volume on report

B=Dilution Factor

(B=1 for undiluted sample)

8. Backup Data.

8.1. Detection limit—Bulk Samples.

The detection limit for the analytical procedure for bulk samples is 0.88 µg, with a coefficient of variation of 0.019 at this level. This amount provided a chromatographic peak that could be identifiable in the presence of possible interferences. The detection limit date were obtained by making 10 µL injections of a 0.10% by volume standard.

Injection	Area Count	
1	45386	
2	44214	
3	43822	$\bar{X}$=44040.1
4	44062	SD=852.3
6	42724	CV=0.019

8.2. Pooled coefficient of variation—Bulk Samples.

The pooled coefficient of variation for analytical procedure was determined by 50 µL replicate injections of analytical standards. The standards were 0.01, 0.02, 0.04, 0.10, 1.0, and 2.0% benzene by volume.

AREA COUNT (PERCENT)

Injection No.	0.01	0.02	0.04	0.10	1.0	2.0
1	45386	84737	166097	448497	4395380	9339150
2	44241	84300	170832	441299	4590800	9484900
3	43822	83835	164160	443719	4593200	9557580
4	44062	84381	164445	444842	4642350	9677060
5	44006	83012	168398	442564	4646430	9766240
6	42724	81957	173002	443975	4646260	.....

AREA COUNT (PERCENT)—Continued

Injection No.	0.01	0.02	0.04	0.10	1.0	2.0
$\bar{X}$ =	44040.1	83703.6	167872	444149	4585767	9564996
SD =	852.5	1042.2	3589.8	2459.1	96839.3	166233
CV =	0.0194	0.0125	0.0213	0.0055	0.0211	0.0174
$\bar{CV}$ =	0.017					

Appendix E to § 1926.1123—Qualitative and Quantitative Fit Testing Procedures

I. Fit Test Protocols

A. The employer shall include the following provisions in the fit test procedures. These provisions apply to both qualitative fit testing (QLFT) and quantitative fit testing (QNFT).

1. The test subject shall be allowed to pick the most comfortable respirator from a selection including respirators of various sizes from different manufacturers. The selection shall include at least three sizes of elastomeric facepieces of the type of respirator that is to be tested, i.e., three sizes of half mask; or three sizes of full facepiece; and units from at least two manufacturers.

2. Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine a comfortable fit. A mirror shall be available to assist the subject in evaluating the fit and positioning the respirator. This instruction may not constitute the subject's formal training on respirator use, at it is only a review.

3. The test subject shall be informed that he/she is being asked to select the respirator which provides the most comfortable fit. Each respirator represents a different size and shape, and if fitted and used properly, will provide adequate protection.

4. The test subject shall be instructed to hold each facepiece up to the face and eliminate those which obviously do not give a comfortable fit.

5. The more comfortable facepieces are noted; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by discussing the points in item 6 below. If the test subject is not familiar with using a particular respirator, the test subject shall be directed to don the mask several times and to ajust the straps each time to become adept at setting proper tension on the straps.

6. Assessment of comfort shall include reviewing the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:

(a) Position of the mask on the nose.

(b) Room for eye protection.

(c) Room to talk.

(d) Position of mask on face and cheeks.

7. The following criteria shall be used to help determine the adequacy of the respirator fit:

(a) Chin properly placed:

(b) Adequate strap tension, not overly tightened;

(c) Fit across nose bridge;

(d) Respirator of proper size to span distance from nose to chin;

(e) Tendency of respirator to slip;

(f) Self-observation in mirror to evaluate fit and respirator position.

8. The test subject shall conduct the negative and positive pressure fit checks as described below or ANSI Z88.2–1980. Before conducting the negative or positive pressure test, the subject shall be told to seat the mask on the face by moving the head from side-to-side and up and down slowly while taking in a few slow deep breaths. Another facepiece shall be selected and retested if the test subject fails the fit check tests.

(a) *Positive pressure test.* Close off the exhalation value and exhale gently onto the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation value cover before closing off the exhalation value and then carefully replacing it after the test.

(b) *Negative pressure test.* Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

9. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, or long sideburns which cross the respirator sealing surface. Any type of apparel which interferes with a satisfactory fit shall be altered or removed.

10. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician trained in respiratory disease or pulmonary medicine to determine whether the test subject can wear a respirator while performing her or his duties.

11. The test subject shall be given the opportunity to wear the successfully fitted respirator for a period of two weeks. If at any time during this period the respirator becomes uncomfortable, the test subject shall be given the opportunity to select a different facepiece and to be retested.

12. The employer shall certify that a successful fit test has been administered to the employee. The certification shall include the following information:

(a) Name of employee;

(b) Type, brand and size of respirator; and

(c) Date of test.

Where QNFT is used, the fit factor, strip chart, or other recording of the results of the test, shall be retained with the certification. The certification shall be maintained until the next fit test is administered.

13. Exercise regimen. Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure. The description of the process shall include a description of the test exercises that the subject will be performing. The respirator to be tested shall be worn for at least 5 minutes before the start of the fit test.

14. Test Exercises. The test subject shall perform exercises, in the test environment, in the manner described below:

(a) Normal breathing. In a normal standing position, without talking, the subject shall breathe normally.

(b) Deep breathing. In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as to not hyperventilate.

(c) Turning head side to side. Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.

(d) Moving head up and down. Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).

(e) Talking. The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.

(f) Grimace. The test subject shall grimace by smiling or frowning.

(g) Bending over. The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place shall be substituted for this exercise in those test environments such as shroud type QNFT units which prohibit bending at the waist.

(h) Normal breathing. Same as exercise 1.

Each test exercise shall be performed for one minute except for the grimace exercise which shall be performed for 15 seconds.

The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become uncomfortable, another model of respirator shall be tried.

B. Qualitative Fit Test (QLFT) Protocols.

1. *General.*

(a) The employer shall assign specific individuals who shall assume full responsibility for implementing the respirator qualitative fit test program.

(b) The employer shall ensure that persons administering QLFT are able to prepare test solutions, calibrate equipment and perform

tests properly, recognize invalid tests, and assure that test equipment is in proper working order.

(c) The employer shall assure that QLFT equipment is kept clean and well maintained so as to operate at the parameters for which it was designed.

2. *Isoamyl Acetate Protocol.*

(a) Odor threshold screening.

The odor threshold screening test, performed without wearing a respirator, is intended to determine if the individual tested can detect the odor of isoamyl acetate.

(1) Three 1-liter glass jars with metal lids are required.

(2) Odor free water (e.g. distilled or spring water) at approximately 25° C shall be used for the solutions.

(3) The isoamyl acetate (IAA) (also known as isopentyl acetate) stock solution is prepared by adding 1 cc of pure IAA to 800 cc of odor free water in a 1 liter jar and shaking for 30 seconds. A new solution shall be prepared at least weekly.

(4) The screening test shall be conducted in a room separate from the room used for actual fit testing. The two rooms shall be well ventilated but shall not be connected to the same recirculating ventilation system.

(5) The odor test solution is prepared in a second jar by placing 0.4 cc of the stock solution into 500 cc of odor free water using a clean dropper or pipette. The solution shall be shaken for 30 seconds and allowed to stand for two to three minutes so that the IAA concentration above the liquid may reach equilibrium. This solution shall be used for only one day.

(6) A test blank shall be prepared in a third jar by adding 500 cc of odor free water.

(7) The odor test and test blank jars shall be labeled 1 and 2 for jar identification. Labels shall be placed on the lids so they can be periodically peeled, dried off and switched to maintain the integrity of the test.

(8) The following instruction shall be typed on a card and placed on the table in front of the two test jars (i.e., 1 and 2): "The purpose of this test is to determine if you can smell banana oil at a low concentration. The two bottles in front of you contain water. One of these bottles also contains a small amount of banana oil. Be sure the covers are on tight, then shake each bottle for two seconds. Unscrew the lid of each bottle, one at a time, and sniff at the mouth of the bottle. Indicate to the test conductor which bottle contains banana oil."

(9) The mixtures used in the IAA odor detection test shall be prepared in an area separate from where the test is performed, in order to prevent olfactory fatigue in the subject.

(10) If the test subject is unable to correctly identify the jar containing the odor test solution, the IAA qualitative fit test shall not be performed.

(11) If the test subject correctly identifies the jar containing the odor test solution, the test subject may proceed to respirator selection and fit testing.

(b) Isoamyl acetate fit test.

(1) The fit test chamber shall be similar to a clear 55-gallon drum liner suspended inverted over a 2-foot diameter frame so that the top of the chamber is about 6 inches (15.24 cm) above the test subject's head. The inside top center of the chamber shall have a small hook attached.

(2) Each respirator used for the fitting and fit testing shall be equipped with organic vapor cartridges or offer protection against organic vapors. The cartridges or masks shall be changed at least weekly.

(3) After selecting, donning, and properly adjusting a respirator, the test subject shall wear it to the fit testing room. This room shall be separate from the room used for odor threshold screening and respirator selection, and shall be well ventilated, as by an exhaust fan or lab hood, to prevent general room contamination.

(4) A copy of the test exercises and any prepared text from which the subject is to read shall be taped to the inside of the test chamber.

(5) Upon entering the test chamber, the test subject shall be given a 6-inch by 5-inch (15.24 × 12.7 cm) piece of paper towel, or other porous, absorbent, single-ply material, folded in half and wetted with 0.75 cc of pure IAA. The test subject shall hand the wet towel on the hook at the top of the chamber.

(6) Allow two minutes for the IAA test concentration to stabilize before starting the fit test exercises. This would be an appropriate time to talk with the test subject; to explain the fit test, the importance of his/her cooperation, and the purpose for the head exercises; or to demonstrate some of the exercises.

(7) If at any time during the test, the subject detects the banana like odor of IAA, the test has failed. The subject shall quickly exit from the test chamber and leave the test area to avoid olfactory fatigue.

(8) If the test has failed, the subject shall return to the selection room and remove the respirator, repeat the odor sensitivity test, select and put on another respirator, return to the test chamber and again begin the procedure described in (1) through (7) above. The process continues until a respirator that fits well has been found. Should the odor sensitivity test be failed, the subject shall wait about 5 minutes before retesting. Odor sensitivity will usually have returned by this time.

(9) When a respirator is found that passes the test, its efficiency shall be demonstrated for the subject by having the subject break the face seal and take a breath before existing the chamber.

(10) When the test subject leaves the chamber, the subject shall remove the saturated towel and return it to the person conducting the test. To keep the test area from becoming contaminated, the used towels shall be kept in a self sealing bag so there is no significant IAA concentration build-up in the test chamber during subsequent tests.

3. *Saccharin Solution Aerosol Protocol.*

The saccharin solution aerosol QLFT protocol is the only currently available, validated test protocol for use with particulate disposable dust respirators not equipped with high-efficiency filters. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) Taste threshold screening.

The saccharin taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of saccharin.

(1) Threshold screening as well as fit testing subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches (30.48 cm) in diameter by 14 inches (35.56 cm) tall with at least the front portion clear and that allows free movements of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts # FT 14 and # FT 15 combined, is adequate.

(2) The test enclosure shall have a ¾-inch (1.905 cm) hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

(3) The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his/her wide open mouth with tongue extended.

(4) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer the test conductor shall spray the *threshold check solution* into the enclosure. This nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

(5) The *threshold check solution* consists of 0.83 grams of sodium saccharin USP in 1 cc of warm water. It can be prepared by putting 1 cc of the fit test solution (see (b)(5) below) in 100 cc of distilled water.

(6) To produce the aerosol, the nebulizer bulb is firmly squeezed so that it collapses completely, then released and allowed to fully expand.

(7) Ten squeezes are repeated rapidly and then the test subject is asked whether the saccharin can be tasted.

(8) If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted.

(9) If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted.

(10) The test conductor will take note of the number of squeezes required to solicit a taste response.

(11) If the saccharin is not tasted after 30 squeezes (step 10), the test subject may not perform the saccharin fit test.

(12) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

(13) Correct use of the nebulizer means that approximately 1 cc of liquid is used at a time in the nebulizer body.

(14) The nebulizer shall be thoroughly rinsed in water, shaken dry, and refilled at least each morning and afternoon or at least every four hours.

(b) Saccharin solution aerosol fit test procedure.

(1) The test subject may not eat, drink (except plain water), or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure described in (a) above.

(3) The test subject shall don the enclosure while wearing the respirator selected in section (a) above. The respirator shall be

properly adjusted and equipped with a particulate filter(s).

(4) A second DeVilbiss Model 40 Inhalation Medication Nebulizer is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.

(5) The fit test solution is prepared by adding 83 grams of sodium saccharin to 100 cc of warm water.

(6) As before, the test subject shall breathe through the open mouth with tongue extended.

(7) The nebulizer is inserted into the hole in the front of the enclosure and the fit test solution is sprayed into the enclosure using the same number of squeezes required to elicit a taste response in the screening test.

(8) After generating the aerosol the test subject shall be instructed to perform the exercises in section I. A. 14 above.

(9) Every 30 seconds the aerosol concentration shall be replenished using one half the number of squeezes as initially.

(10) The test subject shall indicate to the test conductor if at any time during the fit test the taste of saccharin is detected.

(11) If the taste of saccharin is detected, the fit is deemed unsatisfactory and a different respirator shall be tried.

4. *Irritant Fume Protocol.*

(a) The respirator to be tested shall be equipped with high-efficiency particulate air (HEPA) filters.

(b) The test subject shall be allowed to smell a weak concentration of the irritant smoke before the respirator is donned to become familiar with its characteristic odor.

(c) Break both ends of a ventilation smoke tube containing stannic oxychloride, such as the MSA part No. 5645, or equivalent. Attach one end of the smoke tube to a low flow air pump set to deliver 200 milliliters per minute.

(d) Advise the test subject that the smoke can be irritating to the eyes and instruct the subject to keep his/her eyes closed while the test is performed.

(e) The test conductor shall direct the stream of irritant smoke from the smoke tube towards the face seal area of the test subject. He/She shall begin at least 12 inches (30.48 cm) from the facepiece and gradually move to within one inch (2.54 cm), moving around the whole perimeter of the mask.

(f) The exercises identified in section I. A. 14 above shall be performed by the test subject while the respirator seal is being challenged by the smoke.

(g) Each test subject passing the smoke test without evidence of a response shall be given a sensitivity check of the smoke from the same tube once the respirator has been removed to determine whether he/she reacts to the smoke. Failure to evoke a response shall void the fit test.

(h) The fit test shall be performed in a location with exhaust ventilation sufficient to prevent general contamination of the testing area by the test agent.

C. Quantiative Fit Test (QNFT) Protocol.

1. *General.*

(a) The employer shall assign specific individuals who shall assume full responsibility for implementing the respiretor quantitative fit test program.

(b) The employer shall ensure that persons administering QNFT are able to calibrate equipment and perform tests properly, recognize invalid tests, calculate fit factors properly and assure that test equipment is in proper working order.

(c) The employer shall assure that QNFT equipment is kept clean and well maintained so as to operate at the parameters for which it was designed.

2. *Definitions.*

(a) Quantitative fit test. The test is performed in a test chamber. The normal air-purifying element of the respirator is replaced by a high-efficiency particulate air (HEPA) filter in the case of particulate QNFT aerosols or a sorbent offering contaminant penetration protection equivalent to high-efficiency filters where the QNFT test agent is a gas or vapor.

(b) Challenge agent means the aerosol, gas or vapor introduced into a test chamber so that its concentration inside and outside the respirator may be measured.

(c) Test subject means the person wearing the respirator for quantitative fit testing.

(d) Normal standing position means standing erect and straight with arms down along the sides and looking straight ahead.

(e) Maximum peak penetration method means the method of determining test agent penetration in the respirator as determined by strip chart recordings of the test. The highest peak penetration for a given exercise is taken to be representative of average penetration into the respirator for that exercise.

(f) Average peak penetration method means the method of determining test agent penetration into the respirator utilizing a strip chart recorder, integrator, or computer. The agent penetration is determined by an average of the peak heights on the graph or by computer integration, for each exercise except the grimace exercise. Integrators or computers which calculate the actual test agent penetration into the respirator for each exercise will also be considered to meet the requirements of the average peak penetration method.

(g) "Fit Factor" means the ration of challenge agent concentration outside with respect to the inside of a respirator inlet covering (facepiece or enclosure).

3. *Apparatus.*

(a) Instrumentation. Aerosol generation, dilution, and measurement systems using corn oil or sodium chloride as test aerosols shall be used for quantitatives fit testing.

(b) Test chamber. The test chamber shall be large enough to permit all test subjects to perform freely all required exercises without distrubing the challenge agent concentration or the measurement apparatus. The test chamber shall be equipped and constructed so that the challenge agent is effectively isolated from the ambient air, yet uniform in concentration throughout the chamber.

(c) When testing air-purifying respirators, the normal filter or cartridge element shall be replaced with a high-efficiency particulate filter supplied by the same manufacturer.

(d) The sampling instrument shall be selected so that a strip chart record may be made of the test showing the rise and fall of the challenge agent concentration with each inspiration and expiration at fit factors of at least 2,000. Integrators or computers which integrate the amount of test agent penetration leakage into the respirator for each exercise may be used provided a record of the readings is made.

(e) The combination of substitute air-purifying elements, challenge agent and challenge agent concentration in the test chamber shall be such that the test subject is not exposed in excess of an established exposure limit for the challenge agent at any time during the testing process.

(f) The sampling port on the test specimen respirator shall be placed and constructed so that no leakage occurs around the port (e.g. where the respirator is probed), a free air flow is allowed into the sampling line at all times and so that there is no interference with the fit or performance of the respirator.

(g) The test chamber and test set up shall permit the person administering the test to observe the test subject inside the chamber during the test.

(h) The equipment generating the challenge atmosphere shall maintain the concentration of challenge agent inside the test chamber constant to within a 10 percent variation for the duration of the test.

(i) The time lag (interval between an event and the recording of the event on the strip chart or computer or integrator) shall be kept to a minimum. There shall be a clear association between the occurrence of an event inside the test chamber and its being recorded.

(j) The sampling line tubing for the test chamber atmosphere and for the respirator sampling port shall be of equal diameter and of the same material. The length of the two lines shall be equal.

(k) The exhaust flow from the test chamber shall pass through a high-efficiency filter before release.

(l) When sodium chloride aerosol is used, the relative humidity inside the test chamber shall not exceed 50 percent.

(m) The limitations of instrument detection shall be taken into account when determining the fit factor.

(n) Test respirators shall be maintained in proper working order and inspected for deficiencies such as cracks, missing valves and gaskets, etc.

4. *Procedural Requirements.*

(a) When performing the initial positive or negative pressure test the sampling line shall be crimped closed in order to avoid air pressure leakage during either of these tests.

(b) An abbreviated screening isoamyl acetate test or irritant fume test may be utilized in order to quickly identify poor fitting respirators which passed the positive and/or negative pressure test and thus reduce the amount of QNFT time. When performing a screening isoamyl acetate test, combination high-efficiency organic vapor cartridges/canisters shall be used.

(c) A reasonably stable challenge agent concentration shall be measured in the test chamber prior to testing. For canopy or shower curtain type of test units the determination of the challenge agent stability may be established after the test subject has entered the test environment.

(d) Immediately after the subject enters the test chamber, the challenge agent

concentration inside the respirator shall be measured to ensure that the peak penetration does not exceed 5 percent for a half mask or 1 percent for a full facepiece respirator.

(e) A stable challenge concentration shall be obtained prior to the actual start of testing.

(f) Respirator restraining straps shall not be overtightened for testing. The straps shall be adjusted by the wearer without assistance from other persons to give a reasonable comfortable fit typical of normal use.

(g) The test shall be terminated whenever any single peak penetration exceeds 5 percent for half masks and 1 percent for full facepiece respirators. The test subject shall be refitted and retested. If two of the three required tests are terminated, the fit shall be deemed inadequate.

(h) In order to successfully complete a QNFT, three successful fit tests are required. The results of each of the three independent fit tests must exceed the minimum fit factor needed for the class of respirator (e.g. half mask respirator, full facepiece respirator).

(i) Calculation of fit factors.

(1) The fit factor shall be determined for the quantitative fit test by taking the ratio of the average chamber concentration to the concentration inside the respirator.

(2) The average test chamber concentration is the arithmetic average of the test chamber concentration at the beginning and of the end of the test.

(3) The concentration of the challenge agent inside the respirator shall be determined by one of the following methods:

(i) Average peak concentration.

(ii) Maximum peak concentration.

(iii) Integration by calculation of the area under the individual peak for each exercise. This includes computerized integration.

(j) Interpretation of test results. The fit factor established by the quantitative fit testing shall be the lowest of the three fit factor values calculated from the three required fit tests.

(k) The test subject shall not be permitted to wear a half mask, or full facepiece respirator unless a minimum fit factor equivalent to at least 10 times the hazardous exposure level is obtained.

(l) Filters used for quantitative fit testing shall be replaced at least weekly, or whenever increased breathing resistance is encountered, or when the test agent has altered the integrity of the filter media. Organic vapor cartridges/canisters shall be replaced daily (when used) or sooner if there is any indication of breakthrough by a test agent.

§ 1926.1029 Coke oven emissions.

(a) *Scope and application.* This section applies to the control of employee exposure to coke oven emissions, except that this section shall not apply to working conditions with regard to which other Federal agencies exercise statutory authority to prescribe or enforce standards affecting occupational safety and health.

(b) *Definitions.* For the purpose of this section:

Authorized person means any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the opportunity to observe monitoring and measuring procedures under paragraph (n) of this section.

Beehive oven means a coke oven in which the products of carbonization other than coke are not recovered, but are released into the ambient air.

Coke oven means a retort in which coke is produced by the destructive distillation or carbonization of coal.

Coke oven battery means a structure containing a number of slot-type coke ovens.

Coke oven emissions means the benzene-soluble fraction of total particulate matter present during the destructive distillation or carbonization of coal for the production of coke.

Director means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or his or her designee.

Emergency means any occurence such as, but not limited to, equipment failure which is likely to, or does, result in any massive release of coke oven emissions.

Existing coke oven battery means a battery in operation or under construction on January 20, 1977, and which is not a rehabilitated coke oven battery.

Rehabilitated coke oven battery means a battery which is rebuilt, overhauled, renovated, or restored such as from the pad up, after January 20, 1977.

Secretary means the Secretary of Labor, U.S. Department of Labor, or his or her designee.

Stage charging means a procedure by which a predetermined volume of coal in each larry car hopper is introduced into an oven such that no more than two hoppers are discharging simultaneously.

Sequential charging means a procedure, usually automatically timed, by which a predetermined volume of coal in each larry car hopper is introduced into an oven such that no more than two hoppers commence or finish discharging simultaneously although, at some point, all hoppers are discharging simultaneously.

Pipeline charging means any apparatus used to introduce coal into an oven which uses a pipe or duct permanently mounted onto an oven and through which coal is charged.

Green plush means coke which when removed from the oven results in emissions due to the presence of unvolatilized coal.

(c) *Permissible exposure limit.* The employer shall assure that no employee in the regulated area is exposed to coke oven emissions at concentrations greater than 150 micrograms per cubic meter of air (150 $\mu g/m^3$), averaged over any 8-hour period.

(d) *Regulated areas.* (1) The employer shall establish regulated areas and shall limit access to them to authorized persons.

(2) The employer shall establish the following as regulated areas:

(i) The coke oven battery including topside and its machinery, pushside and its machinery, coke side and its machinery, and the battery ends; the wharf; and the screening station;

(ii) The beehive oven and its machinery.

(e) *Exposure monitoring and measurement*—(1) *Monitoring program.* (i) Each employer who has a place of employment where coke oven emissions are present shall monitor employees employed in the regulated area to measure their exposure to coke oven emissions.

(ii) The employer shall obtain measurements which are representative of each employee's exposure to coke oven emissions over an eight-hour period. All measurements shall determine exposure without regard to the use of respiratory protection.

(iii) The employer shall collect fullshift (for at least seven continuous hours) personal samples, including at least one sample during each shift for each battery and each job classification within the regulated areas including at least the following job classifications:

(A) Lidman;
(B) Tar chaser;
(C) Larry car operator;
(D) Luterman;
(E) Machine operator, coke side;
(F) Benchman, coke side;
(G) Benchman, pusher side;
(H) Heater;
(I) Quenching car operator;
(J) Pusher machine operator;
(K) Screening station operator;
(L) Wharfman;
(M) Oven patcher;
(N) Oven repairman;
(O) Spellman; and
(P) Maintenance personnel.

(iv) The employer shall repeat the monitoring and measurements required by this paragraph (e)(1) at least every three months.

(2) *Redetermination.* Whenever there has been a production, process, or control change which may result in new or additional exposure to coke oven emissions, or whenever the employer has any other reason to suspect an increase in employee exposure, the employer shall repeat the monitoring and measurements required by

paragraph (e)(1) of this section for those employees affected by such change or increase.

(3) *Employee notification.* (i) The employer shall notify each employee in writing of the exposure measurements which represent that employe's exposure within five working days after the receipt of the results of measurements required by paragraphs (e)(1) and (e)(2) of this section.

(ii) Whenever such results indicate that the representative employee exposure exceeds the permissible exposure limit, the employer shall, in such notification, inform each employee of that fact and of the corrective action being taken to reduce exposure to or below the permissible exposure limit.

(4) *Accuracy of measurement.* The employer shall use a method of monitoring and measurement which has an accuracy (with a confidence level of 95%) of not less than plus or minus 35% for concentrations of coke oven emissions greater than or equal to 150 $\mu g/m^3$.

(f) *Methods of compliance.* The employer shall control employee exposure to coke oven emmissions by the use of engineering controls, work practices and respiratory protection as follows:

(1) *Priority of compliance methods—*(i) *Existing coke oven batteries.* (A) The employer shall institute the engineering and work practice controls listed in paragraphs (f)(2), (f)(3) and (f)(4) of this section in existing coke oven batteries at the earliest possible time, but not later than January 20, 1980, except to the extent that the employer can establish that such controls are not feasible. In determining the earliest possible time for institution of engineering and work practice controls, the requirement, effective August 27, 1971, to implement feasible administrative or engineering controls to reduce exposures to coal tar pitch volatiles, shall be considered. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(B) The engineering and work practice controls required under paragraphs (f)(2), (f)(3) and (f)(4) of this section are minimum requirements generally applicable to all existing coke oven batteries. If, after implementing all controls required by paragraphs (f)(2), (f)(3) and (f)(4) of this section, or after January 20, 1980, whichever is sooner, employee exposures still exceed the permissible exposure limit, employers shall implement any other engineering and work practice controls necessary to reduce exposure to or below the permissible exposure limit except to the extent that the employer can establish that such controls are not feasible. Whenever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(ii) *New or rehabilitated coke oven batteries.* (A) The employer shall institute the best available engineering and work practice controls on all new or rehabilitated coke oven batteries to reduce and maintain employee exposures at or below the permissible exposure limit, except to the extent that the employer can establish that such controls are not feasible. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(B) If, after implementing all the engineering and work practice controls required by paragraph (f)(1)(ii)(A) of this section, employee exposures still exceed the permissible exposure limit, the employer shall implement any other engineering and work practice controls necessary to reduce exposure to or below the permissible exposure limit except to the extent that the employer can establish that such controls are not feasible. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(iii) *Beehive ovens.* (A) The employer shall institute engineering and work practice controls on all beehive ovens at the earliest possible time to reduce and maintain employee exposures at or below the permissible exposure limit, except to the extent that the employer can establish that such controls are not feasible. In determining the earliest possible time for institution of engineering and work practice controls, the requirement, effective August 27, 1971, to implement feasible administrative or engineering controls to reduce exposures to coal tar pitch volatiles, shall be considered. Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(B) If, after implementing all engineering and work practice controls required by paragraph (f)(1)(iii)(A) of this section, employee exposures still exceed the permissible exposure limit, the employer shall implement any other engineering and work practice controls necessary to reduce exposures to or below the permissible exposure limit except to the extent that the employer can establish that such controls are not feasible. Whenever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (g) of this section.

(2) *Engineering controls—*(i) *Charging.* The employer shall equip and operate existing coke oven batteries with all of the following engineering controls to control coke oven emissions during charging operations:

(A) One of the following methods of charging:

(1) Stage charging as described in paragraph (f)(3)(i)(B) of this section; or

(2) Sequential charging as described in paragraph (f)(3)(i)(B) of this section except that paragraph (f)(3)(i)(B)*(3)(iv)* of this section does not apply to sequential charging; or

(3) Pipeline charging or other forms of enclosed charging in accordance with paragraph (f)(2)(i) of this section, except that paragraphs (f)(2)(i) (B), (D), (E), (F) and (H) of this section do not apply;

(B) Drafting from two or more points in the oven being charged, through the

use of double collector mains, or a fixed or moveable jumper pipe system to another oven, to effectively remove the gases from the oven to the collector mains;

(C) Aspiration systems designed and operated to provide sufficient negative pressure and flow volume to effectively move the gases evolved during charging into the collector mains, including sufficient steam pressure, and steam jets of sufficient diameter;

(D) Mechanical volumetric controls on each larry car hopper to provide the proper amount of coal to be charged through each charging hole so that the tunnel head will be sufficient to permit the gases to move from the oven into the collector mains;

(E) Devices to facilitate the rapid and continuous flow of coal into the oven being charged, such as stainless steel liners, coal vibrators or pneumatic shells;

(F) Individually operated larry car drop sleeves and slide gates designed and maintained so that the gases are effectively removed from the oven into the collector mains;

(G) Mechanized gooseneck and standpipe cleaners;

(H) Air seals on the pusher machine leveler bars to control air infiltration during charging; and

(I) Roof carbon cutters or a compressed air system or both on the pusher machine rams to remove roof carbon.

(ii) *Coking.* The employer shall equip and operate existing coke oven batteries with all of the following engineering controls to control coke oven emissions during coking operations;

(A) A pressure control system on each battery to obtain uniform collector main pressure;

(B) Ready access to door repair facilities capable of prompt and efficient repair of doors, door sealing edges and all door parts;

(C) An adequate number of spare doors available for replacement purposes;

(D) Chuck door gaskets to control chuck door emissions until such door is repaired, or replaced; and

(E) Heat shields on door machines.

(3) *Work practice controls*—(i) *Charging.* The employer shall operate existing coke oven batteries with all of the following work practices to control coke oven emissions during the charging operation:

(A) Establishment and implementation of a detailed, written inspection and cleaning procedure for each battery consisting of at least the following elements:

(1) Prompt and effective repair or replacement of all engineering controls;

(2) Inspection and cleaning of goosenecks and standpipes prior to each charge to a specified minimum diameter sufficient to effectively move the evolved gases from the oven to the collector mains;

(3) Inspection for roof carbon build-up prior to each charge and removal of roof carbon as necessary to provide an adequate gas channel so that the gases are effectively moved from the oven into the collector mains;

(4) Inspection of the steam aspiration system prior to each charge so that sufficient pressure and volume is maintained to effectively move the gases from the oven to the collector mains;

(5) Inspection of steam nozzles and liquor sprays prior to each charge and cleaning as necessary so that the steam nozzles and liquor sprays are clean;

(6) Inspection of standpipe caps prior to each charge and cleaning and luting or both as necessary so that the gases are effectively moved from the oven to the collector mains; and

(7) Inspection of charging holes and lids for cracks, warpage and other defects prior to each charge and removal of carbon to prevent emissions, and application of luting material to standpipe and charging hole lids where necessary to obtain a proper seal.

(B) Establishment and implementation of a detailed written charging procedure, designed and operated to eliminate emissions during charging for each battery, consisting of at least the following elements:

(1) Larry car hoppers filled with coal to a predetermined level in accordance with the mechanical volumetric controls required under paragraph (f)(2)(i)(D) of this section so as to maintain a sufficient gas passage in the oven to be charged;

(2) The larry car aligned over the oven to be charged, so that the drop sleeves fit tightly over the charging holes; and

(3) The oven charged in accordance with the following sequence of requirements:

(i) The aspiration system turned on;

(ii) Coal charged through the outermost hoppers, either individually or together depending on the capacity of the aspiration system to collect the gases involved;

(iii) The charging holes used under paragraph (f)(3)(i)(B)*(3)(ii)* of this section relidded or otherwise sealed off to prevent leakage of coke oven emissions;

(iv) If four hoppers are used, the third hopper discharged and relidded or otherwise sealed off to prevent leakage of coke oven emissions;

(v) The final hopper discharged until the gas channel at the top of the oven is blocked and then the chuck door opened and the coal leveled;

(vi) When the coal from the final hopper is discharged and the leveling operation complete, the charging hole relidded or otherwise sealed off to prevent leakage of coke oven emissions; and

(vii) The aspiration system turned off only after the charging holes have been closed.

(C) Establishment and implementation of a detailed written charging procedure, designed and operated to eliminate emissions during charging of each pipeline or enclosed charged battery.

(ii) *Coking.* The employer shall operate existing coke oven batteries pursuant to a detailed written procedure established and implemented for the control of coke oven emissions during coking, consisting of at least the following elements:

(A) Checking oven back pressure controls to maintain uniform pressure conditions in the collecting main;

(B) Repair, replacement and adjustment of oven doors and chuck doors and replacement of door jambs so as to provide a continuous metal-to-metal fit;

(C) Cleaning of oven doors, chuck doors and door jambs each coking cycle so as to provide an effective seal;

(D) An inspection system and corrective action program to control door emissions to the maximum extent possible; and

(E) Luting of doors that are sealed by luting each coking cycle and reluting, replacing or adjusting as necessary to control leakage.

(iii) *Pushing.* The employer shall operate existing coke oven batteries with the following work practices to control coke oven emissions during pushing operations:

(A) Coke and coal spillage quenched as soon as practicable and not shoveled into a heated oven; and

(B) A detailed written procedure for each battery established and implemented for the control of emissions during pushing consisting of the following elements:

(1) Dampering off the ovens and removal of charging hole lids to effectively control coke oven emissions during the push;

(2) Heating of the coal charge uniformly for a sufficient period so as to obtain proper coking including preventing green pushes;

(3) Prevention of green pushes to the maximum extent possible;

(4) Inspection, adjustment and correction of heating flue temperatures and defective flues at least weekly and

after any green push, so as to prevent green pushes;

(5) Cleaning of heating flues and related equipment to prevent green pushes, at least weekly and after any green push.

(iv) *Maintenance and repair.* The employer shall operate existing coke oven batteries pursuant to a detailed written procedure of maintenance and repair established and implemented for the effective control of coke oven emissions consisting of the following elements:

(A) Regular inspection of all controls, including goosenecks, standpipes, standpipe caps, charging hold lids and castings, jumper pipes and air seals for cracks, misalignment or other defects and prompt implementation of the necessary repairs as soon as possible;

(B) Maintaining the regulated area in a neat, orderly condition free of coal and coke spillage and debris;

(C) Regular inspection of the damper system, aspiration system and collector main for cracks or leakage, and prompt implementation of the necessary repairs;

(D) Regular inspection of the heating system and prompt implementation of the necessary repairs;

(E) Prevention of miscellaneous fugitive topside emissions;

(F) Regular inspection and patching of oven brickwork;

(G) Maintenance of battery equipment and controls in good working order;

(H) Maintenance and repair of coke oven doors, chuck doors, door jambs and seals; and

(I) Repairs instituted and completed as soon as possible, including temporary repair measures instituted and completed where necessary, including but not limited to:

(1) Prevention of miscellaneous fugitive topside emissions; and

(2) Chuck door gaskets, which shall be installed prior to the start of the next coking cycle.

(4) *Filtered air.* (i) The employer shall provided positive-pressure, temperature controlled filtered air for larry car, pusher machine, door machine, and quench car cabs.

(ii) The employer shall provide standby pulpits on the battery topside, at the wharf, and at ther screening station, equipped with positive-pressure, temperature controlled filtered air.

(5) *Emergencies.* Whenever an emergency occurs, the next coking cycle may not begin until the cause of the emergency is determined and corrected, unless the employer can establish that it is necessary to initiate the next coking cycle in order to determine the cause of the emergency.

(6) *Compliance program.* (i) Each employer shall establish and implement a written program to reduce exposures solely by means of the engineering and work practice controls required in paragraph (f) of this section.

(ii) The written program shall include at least the following:

(A) A description of each coke oven operation by battery, including work force and operating crew, coking time, operating procedures and maintenance practices;

(B) Engineering plans and other studies used to determine the controls for the coke battery;

(C) A report of the technology considered in meeting the permissible exposure limit;

(D) Monitoring data obtained in accordance with paragraph (e) of this section;

(E) A detailed schedule for the implementation of the engineering and work practice controls required in paragraph (f) of this section; and

(F) Other relevant information.

(iii) If, after implementing all controls required by paragraph (f)(2)–(f)(4) of this section, or after January 20, 1980, whichever is sooner, or after completion of a new or rehabilitated battery the permissible exposure limit is still exceeded, the employer shall develop a detailed written program and schedule for the implementation of any additional engineering controls and work practices necessary to reduce exposure to or below the permissible exposure limit.

(iv) Written plans for such programs shall be submitted, upon request, to the Secretary and the Director, and shall be available at the worksite for examination and copying by the Secretary, the Director, and the authorized employee representative. The plans required under paragraph (f)(6) of this section shall be revised and updated at least every six months to reflect the current status of the program.

(7) *Training in compliance procedures.* The employer shall incorporate all written procedures and schedules required under this paragraph (f) in the information and training program required under paragraph (k) of this section and, where appropriate, post in the regulated area.

(g) *Respiratory protection*—(1) *General.* (i) Where respiratory protection is required under this section, the employer shall provide and assure the use of respirators which comply with the requirements of this paragraph (g). Compliance with the permissible exposure limit may not be achieved by the use of respirators except:

(A) During the time period necessary to install or implement feasible engineering and work practice controls; or

(B) In work operations such as maintenance and repair activity in which engineering and work practice controls are technologically not feasible; or

(C) In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the permissible exposure limit; or

(D) In emergencies.

(ii) Notwithstanding any other requirement of this section, until January 20, 1978, the wearing of respirators shall be at the discretion of each employee where the employee is not in the vicinity of visible emissions.

(2) *Selection.* (i) Where respirators are required under this section, the employer shall select, provide and assure the use of the appropriate respirator or combination of respirators from Table I below.

TABLE I.—RESPIRATORY PROTECTION FOR COKE OVEN EMISSIONS

Airborne concentration of coke oven emissions	Required respirator
(a) Any concentration.	*(1)* A Type C supplied air respirator operated in pressure demand or other positive pressure or continuous flow mode; or *(2)* A powered air-purifying particulate filter respirator for dust and mist or *(3)* A powered air-purifying particulate filter respirator or combination chemical cartridge and particulate filter respirator for coke oven emissions.
(b) Concentrations not greater than 1500 $\mu g/m^3$.	*(1)* Any particulate filter respirator for dust and mist except single-use respirator; or *(2)* Any particulate filter respirator or combination chemical cartridge and particulate filter respirator for coke oven emissions; or *(3)* Any respirator listed in paragraph (g)(2)(i)*(a)* of this section.

(ii) Not later than January 20, 1978, whenever respirators are required by this section for concentrations not greater than 1500 $\mu g/m^3$, the employer shall provide, at the option of each

affected employee, either a particulate filter respirator as provided in paragraph (g)(2)(i)(B) of this section, or a powered air-purifying respirator as provided in paragraph (g)(2)(i)(A) of this section.

(iii) The employer shall select respirators from among those approved for protection against dust and mist by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR part 11, except that not later than January 20, 1979, the employer shall select respirators from among those approved by NIOSH for protection against coke oven emissions.

(3) *Respirator program.* The employer shall institute a respiratory protection program in accordance with § 1926.103 of this part.

(4) *Respirator usage.* (i) The employer shall assure that the respirator issued to the employee exhibits minimum facepiece leakage and that the respirator is fitted properly.

(ii) The employer shall allow each employee who uses a filter respirator to change the filter elements whenever an increase in breathing resistance is detected and shall maintain an adequate supply of filter elements for this purpose.

(iii) The employer shall allow employees who wear respirators to wash their face and respirator facepiece to prevent skin irritation associated with respirator use.

(h) *Protective clothing and equipment*—(1) *Provision and use.* The employer shall provide and assure the use of appropriate protective clothing and equipment, such as but not limited to:

(i) Flame resistant jacket and pants;

(ii) Flame resistant gloves;

(iii) Face shields or vented goggles which comply with § 1926.102(a)(6) of this part;

(iv) Footwear providing insulation from hot surfaces for footwear;

(v) Safety shoes which comply with § 1926.96 of this title; and

(vi) Protective helmets which comply with § 1926.100 of this part.

(2) *Cleaning and replacement.* (i) The employer shall provide the protective clothing required by paragraphs (h)(1) (i) and (ii) of this section in a clean and dry condition at least weekly.

(ii) The employer shall clean, launder, or dispose of protective clothing required by paragraphs (h)(1) (i) and (ii) of this section.

(iii) The employer shall repair or replace the protective clothing and equipment as needed to maintain their effectiveness.

(iv) The employer shall assure that all protective clothing is removed at the completion of a work shift only in change rooms prescribed in paragraph (i)(1) of this section.

(v) The employer shall assure that contaminated protective clothing which is to be cleaned, laundered, or disposed of, is placed in a closable container in the change room.

(vi) The employer shall inform any person who cleans or launders protective clothing required by this section, of the potentially harmful effects of exposure to coke oven emissions.

(i) *Hygiene facilities and practices*—(1) *Change rooms.* The employer shall provide clean change rooms equipped with storage facilities for street clothes and separate storage facilities for protective clothing and equipment whenever employees are required to wear protective clothing and equipment in accordance with paragraph (h)(1) of this section.

(2) *Showers.* (i) The employer shall assure that employees working in the regulated area shower at the end of the work shift.

(ii) The employer shall provide shower facilities in accordance with § 1926.51(f)(4) of this part.

(3) *Lunchrooms.* The employer shall provide lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees working in the regulated area.

(4) *Lavatories.* (i) The employer shall assure that employees working in the regulated area wash their hands and face prior to eating.

(ii) The employer shall provide lavatory facilities in accordance with § 1926.51(f) (2) and (3) of this part.

(5) *Prohibition of activities in the regulated area.* (i) The employer shall assure that in the regulated area, food or beverages are not present or consumed, smoking products are not present or used, and cosmetics are not applied, except that these activities may be conducted in the lunchrooms, change rooms and showers required under paragraphs (i)(1)–(i)(3) of this section.

(ii) Drinking water may be consumed in the regulated area.

(j) *Medical surveillance*—(1) *General requirements.* (i) Each employer shall institute a medical surveillance program for all employees who are employed in a regulated area at least 30 days per year.

(ii) This program shall provide each employee covered under paragraph (j)(1)(i) of this section with an opportunity for medical examinations in accordance with this paragraph (j).

(iii) The employer shall inform any employee who refuses any required medical examination of the possible health consequences of such refusal and shall obtain a signed statement from the employee indicating that the employee understands the risk involved in the refusal to be examined.

(iv) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and are provided without cost to the employee.

(2) *Initial examinations.* At the time of initial assignment to a regulated area or upon the institution of the medical surveillance program, the employer shall provide a medical examination for employees covered under paragraph (j)(1)(i) of this section including at least the following elements:

(i) A work history and medical history which shall include smoking history and the presence and degree of respiratory symptoms, such as breathlessness, cough, sputum production, and wheezing;

(ii) A 14"x17" (35.56–43.18 cm) posterior-anterior chest x-ray and International Labour Office UICC/Cincinnati (ILO U/C) rating;

(iii) Pulmonary function tests including forced vital capacity (FVC) and forced expiratory volume at one second (FEV 1.0) with recording of type of equipment used;

(iv) Weight;

(v) A skin examination;

(vi) Urinalysis for sugar, albumin, and hematuria;

(vii) A sputum cytology examination; and

(viii) A urinary cytology examination.

(3) *Periodic examinations.* (i) The employer shall provide the examinations specified in paragraphs (j)(2) (i)–(vi) of this section at least annually for employees covered under paragraph (j)(1)(i) of this section.

(ii) The employer shall provide the examinations specified in paragraphs (j)(2) (i)–(viii) of this section at least semi-annually for employees 45 years of age or older or with five (5) or more years employment in the regulated area.

(iii) Whenever an employee who is 45 years of age or older or with five (5) or more years employment in the regulated area transfers or is transferred from employment in a regulated area, the employer shall continue to provide the examinations specified in paragraphs (j)(2) (i)–(viii) of this section semi-annually, as long as that employee is employed by the same employer or a successor employer.

(iv) Whenever an employee has not taken the examinations specified in paragraphs (j)(3) (i)–(iii) of this section with the six (6) months preceding the

termination of employment the employer shall provide such examinations to the employee upon termination of employment.

(4) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this regulation and its Appendixes;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's exposure level or estimated exposure level;

(iv) A description of any personal protective equipment used or to be used; and

(v) Information from previous medical examinations of the affected employee which is not readily available to the examining physician.

(5) *Physician's written opinion.* (i) The employer shall obtain a written opinion from the examining physician which shall include:

(A) The results of the medical examinations;

(B) The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from exposure to coke oven emissions;

(C) Any recommended limitations upon the employee's exposure to coke oven emissions or upon the use of protective clothing or equipment such as respirators; and

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further explanation or treatment.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure.

(iii) The employer shall provide a copy of the written opinion to the affected employee.

(k) *Employee information and training*—(1) *Training program.* (i) The employer shall institute a training program for employees who are employed in the regulated area and shall assure their participation.

(ii) The training program shall be provided as of January 27, 1977 for employees who are employed in the regulated area at that time or at the time of initial assignment to a regulated area.

(iii) The training program shall be provided at least annually for all employees who are employed in the regulated area, except that training regarding the occupational safety and health hazards associated with exposure to coke oven emissions and the purpose, proper use, and limitations of respiratory protective devices shall be provided at least quarterly until January 20, 1978.

(iv) The training program shall include informing each employee of:

(A) The information contained in the substance information sheet for coke oven emissions (Appendix A);

(B) The purpose, proper use, and limitations of respiratory protective devices required in accordance with paragraph (g) of this section;

(C) The purpose for and a description of the medical surveillance program required by paragraph (j) of this section including information on the occupational safety and health hazards associated with exposure to coke oven emissions;

(D) A review of all written procedures and schedules required under paragraph (f) of this section; and

(E) A review of this standard.

(2) *Access to training materials.* (i) The employer shall make a copy of this standard and its appendixes readily available to all employees who are employed in the regulated area.

(ii) The employer shall provide upon request all materials relating to the employee information and training program to the Secretary and the Director.

(l) *Precautionary signs and labels*—(1) *General.* (i) The employer may use labels or signs required by other statutes, regulations or ordinances in addition to, or in combination with, signs and labels required by this paragraph.

(ii) The employer shall assure that no statement appears on or near any sign required by this paragraph which contradicts or detracts from the effects of the required sign.

(iii) The employer shall assure that signs required by this paragraph are illuminated and cleaned as necessary so that the legend is readily visible.

(2) *Signs.* (i) The employer shall post signs in the regulated area bearing the legends:

DANGER

CANCER HAZARD

AUTHORIZED PERSONNEL ONLY

NO SMOKING OR EATING

(ii) In addition, not later than January 20, 1978, the employer shall post signs in the areas where the permissible exposure limit is exceeded bearing the legend:

DANGER

RESPIRATOR REQUIRED

(3) *Labels.* The employer shall apply precautionary labels to all containers of protective clothing contaminated with coke oven emissions bearing the legend:

CAUTION

CLOTHING CONTAMINATED WITH COKE EMISSIONS

DO NOT REMOVE DUST BY BLOWING OR SHAKING

(m) *Recordkeeping*—(1) *Exposure measurements.* The employer shall establish and maintain an accurate record of all measurements taken to monitor employee exposure to coke oven emissions required in paragraph (e) of this section.

(i) This record shall include:

(A) Name, social security number, and job classification of the employees monitored;

(B) The date(s), number, duration and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure where applicable;

(C) The type of respiratory protective devices worn, if any;

(D) A description of the sampling and analytical methods used and evidence of their accuracy; and

(E) The environmental variables that could affect the measurement of employee exposure.

(ii) The employer shall maintain this record for at lest 40 years or for the duration of employment plus 20 years, whichever is longer.

(2) *Medical surveillance.* The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by paragraph (j) of this section.

(i) The record shall include:

(A) The name, social security number, and description of duties of the employee;

(B) A copy of the physician's written opinion;

(C) The signed statement of any refusal to take a medical examination under paragraph (j)(1)(ii) of this section; and

(D) Any employee medical complaints related to exposure to coke oven emissions.

(ii) The employer shall keep, or assure that the examining physician keeps, the following medical records:

(A) A copy of the medical examination results including medical and work history required under paragraph (j)(2) of this section;

(B) A description of the laboratory procedures used and a copy of any standards or guidelines used to interpret the test results;

(C) The initial x-ray;

(D) The x-rays for the most recent five (5) years;

(E) Any x-ray with a demonstrated abnormality and all subsequent x-rays;

(F) The initial cytologic examination slide and written description;

(G) The cytologic examination slide and written description for the most recent 10 years; and

(H) Any cytologic examination slides with demonstrated atypia, if such atypia persists for 3 years, and all subsequent slides and written descriptions.

(iii) The employer shall maintain medical records required under paragraph (m)(2) of this section for at least 40 years, or for the duration of employment plus 20 years, whichever is longer.

(3) *Availability.* (i) The employer shall make available upon request all records required to be maintained by paragraph (m) of this section to the Secretary and the Director for examination and copying.

(ii) Employee exposure measurement records and employee medical records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.34 (a)–(e) and (g)–(i).

(4) *Transfer of records.* (i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by paragraph (m) of this section.

(ii) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, these records shall be transmitted by registered mail to the Director.

(iii) At the expiration of the retention period for the records required to be maintained under paragraphs (m)(1) and (m)(2) of this section, the employer shall transmit these records by registered mail to the Director or shall continue to retain such records.

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1926.34(h).

(n) *Observation of monitoring*—(1) *Employee observation.* The employer shall provide affected employees or their representatives an opportunity to observe any measuring or monitoring of employee exposure to coke oven emissions conducted pursuant to paragraph (e) of this section.

(2) *Observation procedures.* (i) Whenever observation of the measuring or monitoring of employee exposure to coke oven emissions requires entry into an area where the ues of protective clothing or equipment is required, the employer shall provide the observer with and assure the use of such equipment and shall require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the measurement, observers shall be entitled to:

(A) An Explanation of the measurement procedures;

(B) Observe all steps related to the measurement of coke oven emissions performed at the place of exposure; and

(C) Record the results obtained.

(o) *Effective date.* This standard shall become effective January 20, 1977.

(p) *Appendices.* The information contained in the appendixes to this section is not intended, by itself, to create any additional obligations not otherwise imposed or to detract from any existing obligation.

(Approved by the Office of Management and Budget under control number 1218–0128)

Appendix A to § 1926.1129—Coke Oven Emissions Substance Information Sheet

I. Substance Identification

A. *Substance:* Coke Oven Emissions

B. *Definition:* The benzene-soluble fraction of total particulate matter present during the destructive distillation or carbonization of coal for the production of coke.

C. *Permissible Exposure Limit:* 150 micrograms per cubic meter of air determined as an average over an 8-hour period.

D. *Regulated areas:* Only employees authorized by your employer should enter a regulated area. The employer is required to designate the following areas as regulated areas: the coke oven battery, including topside and its machinery, pushside and its machinery, cokeside and its machinery, and the battery ends; the screening station; and the wharf; and the beehive ovens and their machinery.

II. Health hazard data

Exposure to coke oven emissions is a cause of lung cancer, and kidney cancer, in humans. Although there have not been an excess number of skin cancer cases in humans, repeated skin contact with coke oven emissions should be avoided.

III. Protective clothing and equipment

A. *Respirators:* Respirators will be provided by your employer for routine use if your employer is in the process of implementing engineering and work practice controls or where engineering and work practice controls are not feasible or insufficient to reduce exposure to or below the PEL. You must wear respirators for non-routine activities or in emergency situations where you are likely to be exposed to levels of coke oven emissions in excess of the permissible exposure limit. Until January 20, 1978, the routine wearing of respirators is voluntary. Until that date, if you choose not to wear a respirator you do not have to do so. You must still have your respirator with you and you must still wear it if you are near visible emissions. Since how well your respirator fits your face is very important, your employer is required to conduct fit tests to make sure the respirator seals properly when you wear it. These tests are simple and rapid and will be explained to you during your training sessions.

B. *Protective clothing:* Your employer is required to provide, and you must wear, appropriate, clean, protective clothing and equipment to protect your body from repeated skin contact with coke oven emissions and from the heat generated during the coking process. This clothing should include such items as jacket and pants and flame resistant gloves. Protective equipment should include face shield or vented goggles, protective helmets and safety shoes, insulated from hot surfaces where appropriate.

IV. Hygiene facilities and practices

You must not eat, drink, smoke, chew gum or tobacco, or apply cosmetics in the regulated area, except that drinking water is permitted. Your employer is required to provide lunchrooms and other areas for these purposes.

Your employer is required to provide showers, washing facilities, and change rooms. If you work in a regulated area, you must wash your face, and hands before eating. You must shower at the end of the work shift. Do not take used protective clothing out of the change rooms without your employer's permission. Your employer is required to provide for laundering or cleaning of your protective clothing.

V. Signs and labels

Your employer is required to post warning signs and labels for your protection. Signs must be posted in regulated areas. The signs must warn that a cancer hazard is present, that only authorized employees may enter the area, and that no smoking or eating is allowed. In regulated areas where coke oven emissions are above the permissible exposure limit, the signs should also warn that respirators must be worn.

VI. Medical examinations

If you work in a regulated area at least 30 days per year, your employer is required to provide you with a medical examination every year. The medical examination must include a medical history, a chest x-ray; pulmonary function test; weight comparison; skin examination; a urinalysis and a urine and sputum cytology exam for the early detection of urinary or lung cancer. The cytology exams are only included in the initial exam until you are either 45 years or older or have 5 or more years employment in the regulated areas when the medical exams including these tests are to be given every sixth months. The examining physician will provide a written opinion to your employer containing the results of the medical exams. You should also receive a copy of this opinion.

VII. Observation of monitoring

Your employer is required to monitor your exposure to coke oven emissions and you are entitled to observe the monitoring procedure. You are entitled to receive an explanation of the measurement procedure, observe the steps taken in the measurement procedure,

and to record the results obtained. When the monitoring procedure is taking place in an area where respirators or personal protective clothing and equipment are required to be worn, you must also be provided with and must wear the protective clothing and equipment.

VIII. Access to records

You or your representative are entitled to records of your exposure to coke oven emissions upon request to your employer. Your medical examination records can be furnished to your physician upon request to your employer.

IX. Training and education

Additional information on all of these items plus training as to hazards of coke oven emissions and the engineering and work practice controls associated with your job will also be provided by your employer.

Appendix B to § 1926.1129—Industrial Hygiene and Medical Surveillance Guidelines

I. Industrial Hygiene guidelines

A. *Sampling* (Benzene-Soluble Fraction Total Particulate Matter).

Samples collected should be full shift (at least 7-hour) samples. Sampling should be done using a personal sampling pump with pulsation damper at a flow rate of 2 liters per minute. Samples should be collected on 0.8 micrometer pore size silver membrane filters (37 mm diameter) preceded by Gelman glass fiber type A–E filters encased in three-piece plastic (polystyrene) field monitor cassettes. The cassette face cap should be on and the plug removed. The rotameter should be checked every hour to ensure that proper flow rates are maintained.

A minimum of three full-shift samples should be collected for each job classification on each battery, at least one from each shift. If disparate results are obtained for particular job classification, sampling should be repeated. It is advisable to sample each shift on more than one day to account for environmental variables (wind, precipitation, etc.) which may affect sampling. Differences in exposures among different work shifts may indicate a need to improve work practices on a particular shift. Sampling results from different shifts for each job classification should not be averaged. Multiple samples from same shift on each battery may be used to calculate an average exposure for a particular job classification.

B. *Analysis.*

1. All extraction glassware is cleaned with dichromic acid cleaning solution, rinsed with tap water, then dionized water, acetone, and allowed to dry completely. The glassware is rinsed with nanograde benzene before use. The Teflon cups are cleaned with benzene then with acetone.

2. Pre-weigh the 2 ml Teflon cups to one hundredth of a milligram (0.01 mg) on a autobalance AD 2 Tare weight of the cups is about 50 mg.

3. Place the silver membrane filter and glass fiber filter into a 15 ml test tube.

4. Extract with 5 ml of benzene for five minutes in an ultrasonic cleaner.

5. Filter the extract in 15 ml medium glass fritted funnels.

6. Rinse test tube and filters with two 1.5 ml aliquots of benzene and filter through the fritted glass funnel.

7. Collect the extract and two rinses in a 10 ml Kontes graduated evaporative concentrator.

8. Evaporate down to 1 ml while rinsing the sides with benzene.

9. Pipet 0.5 ml into the Teflon cup and evaporate to dryness in a vacuum oven at 40° C for 3 hours.

10. Weigh the Teflon cup and the weight gain is due to the benzene soluble residue in half the Sample.

II. Medical surveillance guidelines

A. *General.*

The minimum requirements for the medical examination for coke oven workers are given in paragraph (j) of the standard.

The initial examination is to be provided to all coke oven workers who work at least 30 days in the regulated area. The examination includes at 14" X 17" (35.56–43.18 cm) posterior-anterior chest x-ray and a ILO/UC rating to assure some standardization of x-ray reading, pulmonary function tests (FVC and FEV 1.0), weight, urinalysis, skin examination and a sputum and urinary cytologic examination. These tests need serve as the baseline for comparing the employee's future test results. Periodic exams include all the elements of the initial exams except that the cytologic tests are to be performed only on those employees who are 45 years of age or older or who have worked for 5 or more years in the regulated area; periodic exams are to be performed semiannually for this group instead of annually. The examination contents are minimum requirements, additional tests such as lateral and oblique x-rays or additional pulmonary function tests may be performed if deemed necessary.

B. *Pulmonary function tests.*

Pulmonary function tests should be performed in a manner which minimizes subject and operator bias. There has been shown to be learning effects with regard to the results obtained from certain tests, such as FEV 1.0. Best results can be obtained by multiple trials for each subject. The best of three trials or the average of the last three of five trials may be used in obtaining reliable results. The type of equipment used (manufacturer, model, etc.) should be recorded with the results as reliability and accuracy varies and such information may be important in the evaluation of test results. Care should be exercised to obtain the best possible testing equipment.

C. *Sputum cytology.*

Sputum can be collected by aerosol inhalation during the medical exam or by spontaneous early morning cough at home. Sputum is induced by transoral inhalation of an aerosolized solution of eight percent (8%) sodium chloride in water. After inhaling as few as three to five breaths the subject usually yields an adequate sputum specimen. A minimum of three samples should be collected by the subject at home. All sputum should be collected directly into sixty percent (60%) alcohol.

Scientific evidence suggests that chest x-rays and sputum cytology should be used together as screening tests for lung cancer in high risk populations, such as coke oven workers. The tests are to be performed every six months on workers who are 45 years of age or older or have worked in the regulated area for 5 or more years. Since the tests seem to be complementary, it may be advantageous to alternate the test procedures. For instance, chest x-rays could be obtained in June and December and sputum cytologys could be obtained in March and September. Facilities for providing necessary diagnostic investigation should be readily available as well as chest physicians, surgeons, radiologists, pathologists and immunotherapists to provide any necessary treatment services.

§ 1926.1144 1,2-dibromo-3-chloropropane.

(a) *Scope and application.* (1) This section applies to occupational exposure to 1,2-dibromo-3-chloropropane (DBCP).

(2) This section does not apply to:

(i) Exposure to DBCP which results solely from the application and use of DBCP as a pesticide; or

(ii) The storage, transportation, distribution or sale of DBCP in intact containers sealed in such a manner as to prevent exposure to DBCP vapors or liquid, except for the requirements of paragraphs (i), (n) and (o) of this section.

(b) *Definitions. Authorized person* means any person required by his duties to be present in regulated areas and authorized to do so by his employer, by this section, or by the Act. *Authorized person* also includes any person entering such areas as a designated representative of employees exercising an opportunity to observe employee exposure monitoring.

DBCP means 1,2-dibromo-3-chloropropane, Chemical Abstracts Service Registry Number 96–12–8, and includes all forms of DBCP.

Director means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

Emergency means any occurrence such as, but not limited to equipment failure, rupture of containers, or failure of control equipment which may, or does, result in an unexpected release of DBCP.

OSHA Area Office means the Area Office of the Occupational Safety and Health Administration having jurisdiction over the geographic area where the affected workplace is located.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

(c) *Permissible exposure limit*—(1) *Inhalation.* The employer shall assure that no employee is exposed to an

airborne concentration of DBCP in excess of 1 part DBCP per billion parts of air (ppb) as an 8-hour time-weighted average.

(2) *Dermal and eye exposure.* The employer shall assure that no employee is exposed to eye or skin contact with DBCP.

(d) *Notification of use.* Within ten (10) days following the introduction of DBCP into the workplace, every employer who has a workplace where DBCP is present, shall report the following information to the nearest OSHA Area Office for each such workplace;

(1) The address and location of the workplace:

(2) A brief description of each process or operation which may result in employee exposure to DBCP;

(3) The number of employees engaged in each process or operation who may be exposed to DBCP and an estimate of the frequency and degree of exposure that occurs; and

(4) A brief description of the employer's safety and health program as it relates to limitation of employee exposure to DBCP.

(e) *Regulated areas.* (1) The employer shall establish, within each place of employment, regulated areas wherever DBCP concentrations are in excess of the permissible exposure limit.

(2) The employer shall limit access to regulated areas to authorized persons.

(f) *Exposure monitoring*—(1) *General.* (i) Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to DBCP over an 8-hour period.

(ii) For the purposes of this paragraph, employee exposure is that exposure which would occur if the employee were not using a respirator.

(2) *Initial.* Each employer who has a place of employment in which DBCP is present, shall monitor each workplace and work operation to accurately determine the airborne concentrations of DBCP to which employees may be exposed.

(3) *Frequency.* (i) If the monitoring required by this section reveals employee exposures to be below the permissible exposure limit, the employer shall repeat these measurements at least quarterly.

(ii) If the monitoring required by this section reveals employee exposures to be in excess of the permissible exposure limit, the employer shall repeat these measurements for each such employee at least monthly. The employer shall continue monthly monitoring until at least two consecutive measurements, taken at least seven (7) days apart, are below the permissible exposure limit. Thereafter the employer shall monitor at least quarterly.

(4) *Additional.* Whenever there has been a production, process, control, or personnel change which may result in any new or additional exposure to DBCP, or whenever the employer has any reason to suspect new or additional exposures to DBCP, the employer shall monitor the employees potentially affected by such change for the purpose of redetermining their exposure.

(5) *Employee notification.* (i) Within five (5) working days after the receipt of monitoring results, the employer shall notify each employee in writing of the measurements which represent the employee's exposure.

(ii) Whenever the results indicate that employee exposure exceeds the permissible exposure limit, the employer shall include in the written notice a statement that the permissible exposure limit was exceeded and a description of the corrective action being taken to reduce exposure to or below the permissible exposure limit.

(6) *Accuracy of measurement.* The employer shall use a method of measurement which has an accuracy, to a confidence level of 95 percent, of not less than plus or minus 25 percent for concentrations of DBCP at or above the permissible exposure limit.

(g) *Methods of compliance*—(1) *Priority of compliance methods.* The employer shall institute engineering and work practice controls to reduce and maintain employee exposures to DBCP at or below the permissible exposure limit, except to the extent that the employer establishes that such controls are not feasible. Where feasible engineering and work practice controls are not sufficient to reduce employee exposures to within the permissible exposure limit, the employer shall nonetheless use them to reduce exposures to the lowest level achievable by these controls, and shall supplement them by use of respiratory protection.

(2) *Compliance program.* (i) The employer shall establish and implement a written program to reduce employee exposures to DBCP to or below the permissible exposure limit solely by means of engineering and work practice controls as required by paragraph (g)(1) of this section.

(ii) The written program shall include a detailed schedule for development and implementation of the engineering and work practice controls. These plans shall be revised at least every six months to reflect the current status of the program.

(iii) Written plans for these compliance programs shall be submitted upon request to the Assistant Secretary and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary, the Director, and any affected employee or designated representative of employees.

(iv) The employer shall institute and maintain at least the controls described in his most recent written compliance program.

(h) *Respirators*—(1) *General.* Where respiratory protection is required under this section, the employer shall select, provide and assure the proper use of respirators. Respirators shall be used in the following circumstances:

(i) During the period necessary to install or implement feasible engineering and work practice controls; or

(ii) During maintenance and repair activities in which engineering and work practice controls are not feasible; or

(iii) In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the permissible exposure limit; or

(iv) In emergencies.

(2) *Respirator selection.* (i) Where respirators are required under this section, the employer shall select and provide, at no cost to the employee, the appropriate respirator from Table 1 below and shall assure that the employee uses the respirator provided.

(ii) The employer shall select respirators from among those approved by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.

TABLE 1—RESPIRATORY PROTECTION FOR DBCP

Airborne concentration of DBCP or condition of use	Respirator type
(a) Less than or equal to 10 ppb.	(1) Any supplied-air respirator; or (2) any self-contained breathing apparatus.
(b) Less than or equal to 50 ppb.	(1) Any supplied-air respirator with full facepiece, helmet, or hood; or (2) any self-contained breathing apparatus with full facepiece.
(c) Less than or equal to 1,000 ppb.	(1) A Type C supplied-air respirator operated in pressure-demand or other positive pressure or continuous flow mode.

TABLE 1—RESPIRATORY PROTECTION FOR DBCP—Continued

Airborne concentration of DBCP or condition of use	Respirator type
(d) Less than or equal to 2,000 ppb.	(1) A Type C supplied-air respirator with full facepiece operated in pressure-demand or other positive pressure mode, or with full facepiece, helmet, or hood operated in continuous flow mode.
(e) Greater than 2,000 ppb or entry and escape from unknown concentrations.	(1) A combination respirator which includes a Type C supplied-air respirator with full facepiece operated in pressure-demand or other positive pressure or continuous flow mode and an auxiliary self-contained breathing apparatus operated in pressure-demand or positive pressure mode; or (2) a self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.
(f) Firefighting	(1) A self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

(3) *Respirator program.* (i) The employer shall institute a respiratory protection program in accordance with 29 CFR 1926.103 (e), (g), (h), and (i).

(ii) Employees who wear respirators shall be allowed to wash their faces and respirator facepieces as needed to prevent potential skin irritation associated with respirator use.

(i) *Emergency situations*—(1) *Written plans.* (i) A written plan for emergency situations shall be developed for each workplace in which DBCP is present.

(ii) Appropriate portions of the plan shall be implemented in the event of an emergency.

(2) Employees engaged in correcting emergency conditions shall be equipped as required in paragraphs (h) and (j) of this section until the emergency is abated.

(3) *Evacuation.* Employees not engaged in correcting the emergency shall be removed and restricted from the area and normal operations in the affected area shall not be resumed until the emergency is abated.

(4) *Alerting employees.* Where there is a possibility of employee exposure to DBCP due to the occurrence of an emergency, a general alarm shall be installed and maintained to promptly alert employees of such occurrences.

(5) *Medical surveillance.* For any employee exposed to DBCP in an emergency situation, the employer shall provide medical surveillance in accordance with paragraph (m)(6) of this section.

(6) *Exposure monitoring.* (i) Following an emergency, the employer shall conduct monitoring which complies with paragraph (f) of this section.

(ii) In workplaces not normally subject to periodic monitoring, the employer may terminate monitoring when two consecutive measurements indicate exposures below the permissible exposure limit.

(j) *Protective clothing and equipments*—(1) *Provision and use.* Where there is any possibility of eye or dermal contact with liquid or solid DBCP, the employer shall provide, at no cost to the employee, and assure that the employee wears impermeable protective clothing and equipment to protect the area of the body which may come in contact with DBCP. Eye and face protection shall meet the requirements of § 1926.102 of this part.

(2) *Removal and storage.* (i) The employer shall assure that employees remove DBCP contaminated work clothing only in change rooms provided in accordance with paragraph (l) (1) of this section.

(ii) The employer shall assure that employees promptly remove any protective clothing and equipment which becomes contaminated with DBCP-containing liquids and solids. This clothing shall not be reworn until the DBCP has been removed from the clothing or equipment.

(iii) The employer shall assure that no employee takes DBCP contaminated protective devices and work clothing out of the change room, except those employees authorized to do so for the purpose of laundering, maintenance, of disposal.

(iv) DBCP-contaminated protective devices and work clothing shall be placed and stored in closed containers which prevent dispersion of the DBCP outside the container.

(v) Containers of DBCP contaminated protective devices or work clothing which are to be taken out of change rooms or the workplace for cleaning, maintenance or disposal, shall bear labels in accordance with paragraph (o)(3) of this section.

(3) *Cleaning and replacement.* (i) The employer shall clean, launder, repair, or replace protective clothing and equipment required by this paragraph to maintain their effectiveness. The employer shall provide clean protective clothing and equipment at least daily to each affected employee.

(ii) The employer shall inform any person who launders or clean DBCP-contaminated protective clothing or equipment of the potentially harmful effects of exposure to DBCP.

(iii) The employer shall prohibit the removal of DBCP from protective clothing and equipment by blowing or shaking.

(k) *Housekeeping*—(1) *Surfaces.* (i) All workplace surfaces shall be maintained free of visible accumulations of DBCP.

(ii) Dry sweeping and the use of compressed air for the cleaning of floors and other surfaces is prohibited where DBCP dusts or liquids are present.

(iii) Where vacuuming methods are selected to clean floors and other surfaces, either portable units or a permanent system may be used.

(A) If a portable unit is selected, the exhaust shall be attached to the general workplace exhaust ventilation system or collected within the vacuum unit, equipped with high efficiency filters or other appropriate means of contaminant removal, so that DBCP is not reintroduced into the workplace air; and

(B) Portable vacuum units used to collect DBCP may not be used for other cleaning purposes and shall be labeled as prescribed by paragraph (o)(3) of this section.

(iv) Cleaning of floors and other surfaces contaminated with DBCP-containing dusts shall not be performed by washing down with a hose, unless a fine spray has first been laid down.

(2) *Liquids.* Where DBCP is present in a liquid form, or as a resultant vapor, all containers or vessels containing DBCP shall be enclosed to the maximum extent feasible and tightly covered when not in use.

(3) *Waste disposal.* DBCP waste scrap, debris, containers or equipment, shall be disposed of in sealed bags or other closed containers which prevent dispersion of DBCP outside the container.

(l) *Hygiene facilities and practices*—(1) *Change rooms.* The employer shall provide clean change rooms equipped with storage facilities for street clothes and separate storage facilities for protective clothing and equipment whenever employees are required to wear protective clothing and equipment in accordance with paragraphs (h) and (j) of this section.

(2) *Showers.* (i) The employer shall assure that employees working in the regulated area shower at the end of the work shift.

(ii) The employer shall assure that employees whose skin becomes contaminated with DBCP-containing liquids or solids immediately wash or shower to remove any DBCP from the skin.

(iii) The employer shall provide shower facilities in accordance with 29 CFR 1926.51(f)(4).

(3) *Lunchrooms.* The employer shall provide lunchroom facilities which have a temperature controlled, positive pressure, filtered air supply, and which are readily accessible to employees working in regulated areas.

(4) *Lavatories.* (i) The employer shall assure that employees working in the regulated area remove protective clothing and wash their hands and face prior to eating.

(ii) The employer shall provide a sufficient number of lavatory facilities which comply with 29 CFR 1926.51(f)(2) and (3).

(5) *Prohibition of activities in regulated areas.* The employer shall assure that, in regulated areas, food or beverages are not present or consumed, smoking products and implements are not present or used, and cosmetics are not present or applied.

(m) *Medical surveillance*—(1) *General.* (i) The employer shall make available a medical surveillance program for employees who work in regulated areas and employees who are subjected to DBCP exposures in an emergency situation.

(ii) All medical examinations and procedures shall be performed by or under the supervision of a licensed physician, and shall be provided without cost to the employee.

(2) *Frequency and content.* At the time of initial assignment, and annually thereafter, the employer shall provide a medical examination for employees who work in regulated areas, which includes at least the following:

(i) A medical and occupational history including reproductive history.

(ii) A physical examination, including examination of the genito-urinary tract, testicle size and body habitus, including a determination of sperm count.

(iii) A serum specimen shall be obtained and the following determinations made by radioimmunoassay techniques utilizing National Institutes of Health (NIH) specific antigen or one of equivalent sensitivity:

(A) Serum follicle stimulating hormone (FSH);

(B) Serum luteinizing hormone (LH); and

(C) Serum total estrogen (females).

(iv) Any other tests deemed appropriate by the examining physician.

(3) *Additional examinations.* If the employee for any reason develops signs or symptoms commonly associated with exposure to DBCP, the employer shall provide the employee with a medical examination which shall include those elements considered appropriate by the examining physician.

(4) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this regulation and its appendices;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The level of DBCP to which the employee is exposed; and

(iv) A description of any personal protective equipment used or to be used.

(5) *Physician's written opinion.* (i) For each examination under this section, the employer shall obtain and provide the employee with a written opinion from the examining physician which shall include:

(A) The results of the medical tests performed;

(B) The physician's opinion as to whether the employee has any detected medical condition which would place the employee at an increased risk of material impairment of health from exposure to DBCP; and

(C) Any recommended limitations upon the employee's exposure to DBCP or upon the use of protective clothing and equipment such as respirators.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure.

(6) *Emergency situations.* If the employee is exposed to DBCP in an emergency situation, the employer shall provide the employee with a sperm count test as soon as practicable, or, if the employee has been vasectionized or is unable to produce a semen specimen, the hormone tests contained in paragraph (m)(2)(iii) of this section. The employer shall provide these same tests three months later.

(n) *Employee information and training*—(1) *Training program.* (i) The employer shall institute a training program for all employees who may be exposed to DBCP and shall assure their participation in such training program.

(ii) The employer shall assure that each employee is informed of the following:

(A) The information contained in Appendix A;

(B) The quantity, location, manner of use, release or storage of DBCP and the specific nature of operations which could result in exposure to DBCP as well as any necessary protective steps;

(C) The purpose, proper use, and limitations of respirators;

(D) The purpose and description of the medical surveillance program required by paragraph (m) of this section; and

(E) A review of this standard, including appendices.

(2) *Access to training materials.* (i) The employer shall make a copy of this standard and its appendices readily available to all affected employees.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the Assistant Secretary and the Director.

(o) *Signs and labels*—(1) *General.* (i) The employer may use labels or signs required by other statutes, regulations, or ordinances in addition to or in combination with, signs and labels required by this paragraph.

(ii) The employer shall assure that no statement appears on or near any sign or label required by this paragraph which contradicts or detracts from the required sign or label.

(2) *Signs.* (i) The employer shall post signs to clearly indicate all regulated areas. These signs shall bear the legend:

DANGER

1,2-Dibromo-3-chloropropane

(Insert appropriate trade or common names)

CANCER HAZARD

AUTHORIZED PERSONNEL ONLY

RESPIRATOR REQUIRED

(3) *Labels.* (i) The employer shall assure that precautionary labels are affixed to all containers of DBCP and of products containing DBCP in the workplace, and that the labels remain affixed when the DBCP or products containing DBCP are sold, distributed, or otherwise leave the employer's workplace. Where DBCP or products containing DBCP are sold, distributed or otherwise leave the employer's workplace bearing appropriate labels required by EPA under the regulations in 40 CFR Part 162, the labels required by this paragraph need not be affixed.

(ii) The employer shall assure that the precautionary labels required by this paragraph are readily visible and legible. The labels shall bear the following legend:

DANGER

1,2-Dibromo-3-chloropropane

CANCER HAZARD

(p) *Recordkeeping*—(1) *Exposure monitoring.* (i) The employer shall establish and maintain an accurate

record of all monitoring required by paragraph (f) of this section.

(ii) This record shall include:

(A) The dates, number, duration and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure;

(B) A description of the sampling and analytical methods used;

(C) Type of respiratory protective devices worn, if any; and

(D) Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent.

(iii) The employer shall maintain this record for at least 40 years or the duration of employment plus 20 years, whichever is longer.

(2) *Medical surveillance.* (i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance required by paragraph (m) of this section.

(ii) This record shall include:

(A) The name and social security number of the employee;

(B) A copy of the physician's written opinion;

(C) Any employee medical complaints related to exposure to DBCP;

(D) A copy of the information provided the physician as required by paragraphs (m)(4)(ii) through (m)(4)(iv) of this section; and

(E) A copy of the employee's medical and work history.

(iii) The employer shall maintain this record for at least 40 years or the duration of employment plus 20 years, whichever is longer.

(3) *Availability.* (i) The employer shall assure that all records required to be maintained by this section be made available upon request to the Assistant Secretary and the Director for examination and copying.

(ii) Employee exposure monitoring records and employee medical records required by this paragraph shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a) through (e) and (g) through (i).

(4) *Transfer of records.* (i) If the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by paragraph (p) of this section for the prescribed period.

(ii) If the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall transmit these records by mail to the Director.

(iii) At the expiration of the retention period for the records required to be maintained under paragraph (p) of this section, the employer shall transmit these records by mail to the Director.

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1926.33(h).

(q) *Observation of monitoring*—(1) *Employee observation.* The employer shall provide affected employees, or their designated representatives, with an opportunity to observe any monitoring of employee exposure to DBCP required by this section.

(2) *Observation procedures.* (i) Whenever observation of the measuring or monitoring of employee exposure to DBCP requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer with personal protective clothing or equipment required to be worn by employees working in the area, assure the use of such clothing and equipment, and require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring or measurement, observers shall be entitled to:

(A) Receive an explanation of the measurement procedures;

(B) Observe all steps related to the measurement of airborne concentrations of DBCP performed at the place of exposure; and

(C) Record the results obtained.

(r) *Appendices.* The information contained in the appendices is not intended, by itself, to create any additional obligations not otherwise imposed or to detract from any existing obligation.

(Approved by the Office of Management and Budget under control number 1218–0101)

Appendix A to § 1926.1144—Substance Safety Data Sheet For DBCP

I. Substance identification

A. Synonyms and trades names: DBCP; Dibromochloropropane; Fumazone (Dow Chemical Company TM); Nemafume; Nemagon (Shell Chemical Co. TM); Nemaset; BBC 12; and OS 1879.

B. Permissible exposure:

1. *Airborne.* 1 part DBCP vapor per billion parts of air (1 ppb); time-weighted average (TWA) for an 8-hour workday.

2. *Dermal.* Eye contact and skin contact with DBCP are prohibited.

C. Appearance and odor: Technical grade DBCP is a dense yellow or amber liquid with a pungent odor. It may also appear in granular form, or blended in varying concentrations with other liquids.

D. Uses: DBCP is used to control nematodes, very small worm-like plant parasites, on crops including cotton, soybeans, fruits, nuts, vegetables and ornamentals.

II. Health hazard data

A. Routes of entry: Employees may be exposed:

1. Through inhalation (breathing);
2. Through ingestion (swallowing);
3. Skin contact; and
4. Eye contact.

B. Effects of exposure:

1. *Acute exposure.* DBCP may cause drowsiness, irritation of the eyes, nose, throat and skin, nausea and vomiting. In addition, overexposure may cause damage to the lungs, liver or kidneys.

2. *Chronic exposure.* Prolonged or repeated exposure to DBCP has been shown to cause sterility in humans. It also has been shown to produce cancer and sterility in laboratory animals and has been determined to constitute an increased risk of cancer in man.

3. *Reporting Signs and Symptoms.* If you develop any of the above signs or symptoms that you think are caused by exposure to DBCP, you should inform your employer.

III. Emergency first aid procedures

A. *Eye exposure.* If DBCP liquid or dust containing DBCP gets into your eyes, wash your eyes immediately with large amounts of water, lifting the lower and upper lids occasionally. Get medical attention immediately. Contact lenses should not be worn when working with DBCP.

B. *Skin exposure.* If DBCP liquids or dusts containing DBCP get on your skin, immediately wash using soap or mild detergent and water. If DBCP liquids or dusts containing DBCP penetrate through your clothing, remove the clothing immediately and wash. If irritation is present after washing get medical attention.

C. *Breathing.* If you or any person breathe in large amounts of DBCP, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Do not use mouth-to-mouth. Keep the affected person warm and at rest. Get medical attention as soon as possible.

D. *Swallowing.* When DBCP has been swallowed and the person is conscious, give the person large amounts of water immediately. After the water has been swallowed, try to get the person to vomit by having him touch the back of his throat with his finger. Do not make an unconscious person vomit. Get medical attention immediately.

E. *Rescue.* Notify someone. Put into effect the established emergency rescue procedures. Know the locations of the emergency rescue equipment before the need arises.

IV. Respirators and protective clothing

A. *Respirators.* You may be required to wear a respirator in emergencies and while your employer is in the process of reducing DBCP exposures through engineering controls. If respirators are worn, they must have a National Institute for Occupational Safety and Health (NIOSH) approval label (Older respirators may have a Bureau of Mines Approval label). For effective protection, a respirator must fit your face and head snugly. The respirator should not be

loosened or removed in work situations where its use is required. DBCP does not have a detectable odor except at 1,000 times or more above the permissible exposure limit. If you can smell DBCP while wearing a respirator, the respirator is not working correctly; go immediately to fresh air. If you experience difficulty breathing while wearing a respirator, tell your employer.

B. *Protective clothing.* When working with DBCP you must wear for your protection impermeable work clothing provided by your employer. (Standard rubber and neoprene protective clothing do not offer adequate protection).

DBCP must never be allowed to remain on the skin. Clothing and shoes must not be allowed to become contaminated with DBCP, and if they do, they must be promptly removed and not worn again until completely free of DBCP. Turn in impermeable clothing that has developed leaks for repair or replacement.

C. *Eye protection.* You must wear splash-proof safety goggles where there is any possibility of DBCP liquid or dust contacting your eyes.

V. Precautions for safe use, handling, and storage

A. DBCP must be stored in tightly closed containers in a cool, well-ventilated area.

B. If your work clothing may have become contaminated with DBCP, or liquids or dusts containing DBCP, you must change into uncontaminated clothing before leaving the work premises.

C. You must promptly remove any protective clothing that becomes contaminated with DBCP. This clothing must not be reworn until the DBCP is removed from the clothing.

D. If your skin becomes contaminated with DBCP, you must immediately and thoroughly wash or shower with soap or mild detergent and water to remove any DBCP from your skin.

E. You must not keep food, beverages, cosmetics, or smoking materials, nor eat or smoke, in regulated areas.

F. If you work in a regulated area, you must wash your hands thoroughly with soap or mild detergent and water, before eating, smoking or using toilet facilities.

G. If you work in a regulated area, you must remove any protective equipment or clothing before leaving the regulated area.

H. Ask your supervisor where DBCP is used in your work area and for any additional safety and health rules.

VI. Access to information

A. Each year, your employer is required to inform you of the information contained in this Substance Safety Data Sheet for DBCP. In addition, your employer must instruct you in the safe use of DBCP, emergency procedures, and the correct use of protective equipment.

B. Your employer is required to determine whether you are being exposed to DBCP. You or your representative have the right to observe employee exposure measurements and to record the result obtained. Your employer is required to inform you of your exposure. If your employer determines that you are being overexposed, he is required to inform you of the actions which are being taken to reduce your exposure.

C. Your employer is required to keep records of your exposure and medical examinations. Your employer is required to keep exposure and medical data for at least 40 years or the duration of your employment plus 20 years, whichever is longer.

D. Your employer is required to release exposure and medical records to you, your physician, or other individual designated by you upon your written request.

Appendix B to § 1926.1144—Substance Technical Guidelines for DBCP

I. Physical and chemical data

A. Substance Identification

1. Synonyms: 1,2-dibromo-3-chloropropane; DBCP, Fumazone; Nemafume; Nemagon; Nemaset; BBC 12; OS 1879. DBCP is also included in agricultural pesticides and fumigants which include the phrase "Nema———" in their name.

2. Formula: $C_3H_5Br_2$ C1.

3. Molecular Weight: 236.

B. Physical Data:

1. Boiling point (760 mm HG): 195° C (383° F)

2. Specific gravity (water=1): 2.093.

3. Vapor density (air=1 at boiling point of DBCP): Data not available.

4. Melting point: 6° C (43° F).

5. Vapor pressure at 20° C (68° F): 0.8 mm Hg

6. Solubility in water: 1000 ppm.

7. Evaporation rate (Butyl Acetate=1): very much less than 1.

8. Appearance and odor: Dense yellow or amber liquid with a pungent odor at high concentrations. Any detectable odor of DBCP indicates overexposure.

II. Fire explosion and reactivity hazard data

A. Fire

1. Flash point: 170° F (77° C)

2. Autoignition temperature: Data not available.

3. Flammable limits in air, percent by volume: Data not available.

4. Extinguishing media: Carbon dioxide, dry chemical.

5. Special fire-fighting procedures: Do not use a solid stream of water since a stream will scatter and spread the fire. Use water spray to cool containers exposed to a fire.

6. Unusual fire and explosion hazards: None known.

7. For purposes of complying with the requirements of § 1910.106, liquid DBCP is classified as a Class III A combustible liquid.

8. For the purpose of complying with § 1910.309, the classification of hazardous locations as described in article 500 of the National Electrical Code for DBCP shall be Class I, Group D.

9. For the purpose of compliance with § 1910.157, DBCP is classified as a Class B fire hazard.

10. For the purpose of compliance with § 1910.178, locations classified as hazardous locations due to the presence of DBCP shall be Class I, Group D.

11. Sources of ignition are prohibited where DBCP presents a fire or explosion hazard.

B. Reactivity

1. Conditions contributing to instability: None known.

2. Incompatibilities: Reacts with chemically active metals, such as aluminum, magnesium and tin alloys.

3. Hazardous decomposition products: Toxic gases and vapors (such as HBr, HCl and carbon monoxide) may be released in a fire involving DBCP.

4. Special precautions: DBCP will attack some rubber materials and coatings.

III. Spill, leak and disposal procedures

A. If DBCP is spilled or leaked, the following steps should be taken:

1. The area should be evacuated at once and re-entered only after thorough ventilation.

2. Ventilate area of spill or leak.

3. If in liquid form, collect for reclamation or absorb in paper, vermiculite, dry sand, earth or similar material.

4. If in solid form, collect spilled material in the most convenient and safe manner for reclamation or for disposal.

B. Persons not wearing protective equipment must be restricted from areas of spills or leaks until cleanup has been completed.

C. Waste Disposal Methods:

1. For small quantities of liquid DBCP, absorb on paper towels, remove to a safe place (such as a fume hood) and burn the paper. Large quantities can be reclaimed or collected and atomized in a suitable combustion chamber equipped with an appropriate effluent gas cleaning device. If liquid DBCP is absorbed in vermiculite, dry sand, earth or similar material and placed in sealed containers it may be disposed of in a State-approved sanitary landfill.

2. If in solid form, for small quantities, place on paper towels, remove to a safe place (such as a fume hood) and burn. Large quantities may be reclaimed. However, if this is not practical, dissolve in a flammable solvent (such as alcohol) and atomize in a suitable combustion chamber equipped with an appropriate effluent gas cleaning device. DBCP in solid form may also be disposed in a state-approved sanitary landfill.

IV. Monitoring and measurement procedures

A. Exposure above the permissible exposure limit.

1. *Eight Hour Exposure Evaluation:* Measurements taken for the purpose of determining employee exposure under this section are best taken so that the average 8-hour exposure may be determined from a single 8-hour sample or two (2) 4-hour samples. Air samples should be taken in the employee's breathing zone (air that would most nearly represent that inhaled by the employee).

2. *Monitoring Techniques:* The sampling and analysis under this section may be performed by collecting the DBCP vapor on petroleum based charcoal absorption tubes with subsequent chemical analyses. The method of measurement chosen should determine the concentration of airborne DBCP at the permissible exposure limit to an accuracy of plus or minus 25 percent. If charcoal tubes are used, a total volume of 10

liters should be collected at a flow rate of 50 cc. per minute for each tube. Analyze the resultant samples as you would samples of halogenated solvent.

B. Since many of the duties relating to employee protection are dependent on the results of monitoring and measuring procedures, employers should assure that the evaluation of employee exposures is performed by a competent industrial hygienist or other technically qualified person.

V. Protective clothing

Employees should be required to wear appropriate protective clothing to prevent any possibility of skin contact with DBCP. Because DBCP is absorbed through the skin, it is important to prevent skin contact with both liquid and solid forms of DBCP. Protective clothing should include impermeable coveralls or similar fullbody work clothing, gloves, headcoverings, and workshoes or shoe coverings. Standard rubber and neoprene gloves do not offer adequate protection and should not be relied upon to keep DBCP off the skin. DBCP should never be allowed to remain on the skin. Clothing and shoes should not be allowed to become contaminated with the material, and if they do, they should be promptly removed and not worn again until completely free of the material. Any protective clothing which has developed leaks or is otherwise found to be defective should be repaired or replaced. Employees should also be required to wear splash-proof safety goggles where there is any possibility of DBCP contacting the eyes.

VI. Housekeeping and hygiene facilities

1. The workplace must be kept clean, orderly and in a sanitary condition;

2. Dry sweeping and the use of compressed air is unsafe for the cleaning of floors and other surfaces where DBCP dust or liquids are found. To minimize the contamination of air with dust, vacuuming with either portable or permanent systems must be used. If a portable unit is selected, the exhaust must be attached to the general workplace exhaust ventilation system, or collected within the vacuum unit equipped with high efficiency filters or other appropriate means of contamination removal and not used for other purposes. Units used to collect DBCP must be labeled.

3. Adequate washing facilities with hot and cold water must be provided, and maintained in a sanitary condition. Suitable cleansing agents should also be provided to assure the effective removal of DBCP from the skin.

4. Change or dressing rooms with individual clothes storage facilities must be provided to prevent the contamination of street clothes with DBCP. Because of the hazardous nature of DBCP, contaminated protective clothing must be stored in closed containers for cleaning or disposal.

VII. Miscellaneous precautions

A. Store DBCP in tightly closed containers in a cool, well ventilated area.

B. Use of supplied-air suits or other impervious clothing (such as acid suits) may be necessary to prevent skin contact with DBCP. Supplied-air suits should be selected, used, and maintained under the supervision of persons knowlegeable in the limitations and potential life-endangering characteristics of supplied-air suits.

C. The use of air-conditioned suits may be necessary in warmer climates.

D. Advise employees of all areas and operations where exposure to DBCP could occur.

VIII. Common operations

Common operations in which exposure to DBCP is likely to occur are: during its production; and during its formulation into pesticides and fumigants.

Appendix C to § 1926.1144—Medical Surveillance Guidelines For DBCP

I. Route of entry

Inhalation; skin absorption

II. Toxicology

Recent data collected on workers involved in the manufacture and formulation of DBCP has shown that DBCP can cause sterility at very low levels of exposure. This finding is supported by studies showing that DBCP causes sterility in animals. Chronic exposure to DBCP resulted in pronounced necrotic action on the parenchymatous organs (i.e., liver, kidney, spleen) and on the testicles of rats at concentrations as low as 5 ppm. Rats that were chronically exposed to DBCP also showed changes in the composition of the blood, showing low RBC, hemoglobin, and WBC, and high reticulocyte levels as well as functional hepatic disturbance, manifesting itself in a long prothrombin time. Reznik et al. noted a single dose of 100 mg produced profound depression of the nervous system of rats. Their condition gradually improved. Acute exposure also resulted in the destruction of the sex gland activity of male rats as well as causing changes in the estrous cycle in female rats. Animal studies have also associated DBCP with an increased incidence of carcinoma. Olson, et al. orally administered DBCP to rats and mice 5 times per week at experimentally predetermined maximally tolerated doses and at half those doses. As early as ten weeks after initiation of treatment, DBCP induced a high incidence of squamous cell carcinomas of the stomach with metastases in both species. DBCP also induced mammary adenocarcinomas in the female rats at both dose levels.

III. Signs and symptoms

A. Inhalation: Nausea, eye irritation, conjunctivitis, respiratory irritation, pulmonary congestion or edema, CNS depression with apathy, sluggishness, and ataxia.

B. Dermal: Erythema or inflammation and dermatitis on repeated exposure.

IV. Special tests

A. *Semen analysis:* The following information excerpted from the document "Evaluation of Testicular Function", submitted by the Corporate Medical Department of the Shell Oil Company (exhibit 39–3), may be useful to physicians conducting the medical surveillance program;

In performing semen analyses certain minimal but specific criteria should be met:

1. It is recommended that a minimum of three valid semen analyses be obtained in order to make a determination of an individual's average sperm count.

2. A period of sexual abstinence is necessary prior to the collection of each masturbatory sample. It is recommended that intercourse or masturbation be performed 48 hours before the actual specimen collection. A period of 48 hours of abstinence would follow; then the masturbatory sample would be collected.

3. Each semen specimen should be collected in a clean, widemouthed, glass jar (not necessarily pre-sterilized) in a manner designated by the examining physician. Any part of the seminal fluid exam should be initialed *only after liquifaction* is complete, i.e., 30 to 45 minutes after collection.

4. Semen volume should be measured to the nearest 1/10 of a cubic centimeter.

5. Sperm density should be determined using routine techniques involving the use of a white cell pipette and a hemocytometer chamber. The immobilizing fluid most effective and most easily obtained for this process is distilled water.

6. Thin, dry smears of the semen should be made for a morphologic classification of the sperm forms and should be stained with either hematoxalin or the more difficult, yet more precise, Papanicolaou technique. Also of importance to record is obvious sperm agglutination, pyospermia, delayed liquifaction (greater than 30 minutes), and hyperviscosity. In addition, pH, using nitrazine paper, should be determined.

7. A total morphology evaluation should include percentages of the following:

a. Normal (oval) forms,

b. Tapered forms,

c. Amorphous forms (include large and small sperm shapes),

d. Duplicated (either heads or tails) forms, and

e. Immature forms.

8. Each sample should be evaluated for sperm *viability* (percent viable sperm moving at the time of examination) as well as sperm *motility* (subjective characterization of "purposeful forward sperm progression" of the majority of those viable sperm analyzed) within two hours after collection, ideally by the same or equally qualified examiner.

B. *Serum determinations:* The following serum determinations should be performed by radioimmuno-assay techniques using National Institutes of Health (NIH) specific antigen or antigen preparations of equivalent sensitivity:

1. Serum follicle stimulating hormone (FSH);

2. Serum luteinizing hormone (LH); and

3. Serum total estrogen (females only).

V. Treatment

Remove from exposure immediately, give oxygen or artificial resuscitation if indicated Contaminated clothing and shoes should be removed immediately. Flush eyes and wash contaminated skin. If swallowed and the person is conscious, induce vomiting. Recovery from mild exposures is usually rapid and complete.

VI. Surveillance and preventive considerations

A. *Other considerations.* DBCP can cause both acute and chronic effects. It is important that the physician become familiar with the operating conditions in which exposure to DBCP occurs. Those with respiratory disorders may not tolerate the wearing of negative pressure respirators.

B. *Surveillance and screening.* Medical histories and laboratory examinations are required for each employee subject to exposure to DBCP. The employer should screen employees for history of certain medical conditions (listed below) which might place the employee at increased risk from exposure.

1. *Liver disease.* The primary site of biotransformation and detoxification of DBCP is the liver. Liver dysfunctions likely to inhibit the conjugation reactions will tend to promote the toxic actions of DBCP. These precautions should be considered before exposing persons with impaired liver function to DBCP.

2. *Renal disease.* Because DBCP has been associated with injury to the kidney it is important that special consideration be given to those with possible impairment of renal function.

3. *Skin desease.* DBCP can penetrate the skin and can cause erythema on prolonged exposure. Persons with pre-existing skin disorders may be more susceptible to the effects of DBCP.

4. *Blood dyscrasias.* DBCP has been shown to decrease the content of erythrocytes, hemoglobin, and leukocytes in the blood, as well as increase the prothrombin time. Persons with existing blood disorders may be more susceptible to the effects of DBCP.

5. *Reproductive disorders.* Animal studies have associated DBCP with various effects on the reproductive organs. Among these effects are atrophy of the testicles and changes in the estrous cycle. Persons with pre-existing reproductive disorders may be at increased risk to these effects of DBCP.

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2. Faydysh, E. V., Rakhmatullaev, N. N. and Varshavskii, V. A.: The Cytotoxic Action of Nemagon in a Subacute Experiment, *Med. Zh. Uzbekistana*, (No. 1), 1970, pp. 64–65, (translated from Russian).

3. Rakhmatullaev, N. N.: Hygienic Characteristics of the Nematocide Nemagon in Relation to Water Pollution Control, *Hyg. Sanit.*, 36(3), 1971, pp. 344–348, (translated from Russian).

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§ 1926.1145 Acrylonitrile.

(a) *Scope and application.* (1) This section applies to all occupational exposures to acrylonitrile (AN), Chemical Abstracts Service Registry No. 000107131, except as provided in paragraphs (a)(2) and (a)(3) of this section.

(2) This section does not apply to exposures which result solely from the processing, use, and handling of the following materials:

(i) ABS resins, SAN resins, nitrile barrier resins, solid nitrile elastomers, and acrylic and modacrylic fibers, when these listed materials are in the form of finished polymers, and products fabricated from such finished polymers;

(ii) Materials made from and/or containing AN for which objective data is reasonably relied upon to demonstrate that the material is not capable of releasing AN in airborne concentrations in excess of 1 ppm as an eight (8)-hour time-weighted average, under the expected conditions of processing, use, and handling which will cause the greatest possible release; and

(iii) Solid materials made from and/or containing AN which will not be heated above 170° F (77° C) during handling, use, or processing.

(3) An employer relying upon exemption under paragraph (a)(2)(ii) shall maintain records of the objective data supporting that exemption, and of the basis of the employer's reliance on the data, as provided in paragraph (q) of this section.

(b) *Definitions. Acrylonitrile* or *AN* means acrylonitrile monomer, chemical formula CH_2=CHCN.

Action level means a concentration of AN of 1 ppm as an eight (8)-hour time-weighted average.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

Authorized person means any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the opportunity to observe monitoring procedures under paragraph (r) of this section.

Decontamination means treatment of materials and surfaces by water washdown, ventilation, or other means, to assure that the materials will not expose employees to airborne concentrations of AN above 1 means the Director, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

Emergency means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment, which results in an unexpected massive release of AN.

Liquid AN means AN monomer in liquid form, and liquid or semiliquid polymer intermediates, including slurries, suspensions, emulsions, and solutions, produced during the polymerization of AN.

OSHA Area Office means the Area Office of the Occupational Safety and Health Administration having jurisdiction over the geographic area where the affected workplace is located.

(c) *Permissible exposure limits*—(1) *Inhalation*—(i) *Time weighted average limit (TWA).* The employer shall assure that no employee is exposed to an airborne concentration of acrylonitrile in excess of two (2) parts acrylonitrile per million parts of air (2 ppm) as an eight (8)-hour time-weighted average.

(ii) *Ceiling limit.* The employer shall assure that no employee is exposed to an airborne concentration of acrylonitrile in excess of ten (10) ppm as averaged over any fifteen (15)-minute period during the work day.

(2) *Dermal and eye exposure.* The employer shall assure that no employee is exposed to skin contact or eye contact with liquid AN.

(d) *Notification of regulated areas and emergencies*—(1) *Regulated areas.* Within thirty (30) days following the establishment of a regulated area pursuant to paragraph (f) of this section, the employer shall report the following information to the OSHA Area Office:

(i) The address and location of each establishment which has one or more regulated areas;

(ii) The locations, within the establishment, of each regulated area;

(iii) A brief description of each process or operation which results in employee exposure to AN in regulated areas; and

(iv) The number of employees engaged in each process or operation within each regulated area which results in exposure to AN, and an estimate of the frequency and degree of exposure that occurs.

Whenever there has been a significant change in the information required to be reported by this paragraph, the employer shall promptly provide the new information to the OSHA Area Office.

(2) *Emergencies.* Emergencies, and the facts obtainable at that time, shall be reported within seventy-two (72) hours of the initial occurrence to the OSHA Area Office. Upon request of the OSHA Area Office, the employer shall submit additional information in writing relevant to the nature and extent of employee exposures and measures taken

to prevent future emergencies of a similar nature.

(e) *Exposure monitoring*—(1) *General.* (i) Determinations of airborne exposure levels shall be made from air samples that are representative of each employee's exposure to AN over an eight (8)-hour period.

(ii) For the purposes of this section, employee exposure is that exposure which would occur if the employee were not using a respirator.

(2) *Initial monitoring.* Each employer who has a place of employment in which AN is present shall monitor each such workplace and work operation to accurately determine the airborne concentrations of AN to which employees may be exposed.

(3) *Frequency.* (i) If the monitoring required by this section reveals employee exposure to be below the action level, the employer may discontinue monitoring for that employee.

(ii) If the monitoring required by this section reveals employee exposure to be at or above the action level but below the permissible exposure limits, the employer shall repeat such monitoring for each such employee at least quarterly. The employer shall continue these quarterly measurements until at least two consecutive measurements taken at least seven (7) days apart, are below the action level, and thereafter the employer may discontinue monitoring for that employee.

(iii) If the monitoring required by this section reveals employee exposure to be in excess of the permissible exposure limits, the employer shall repeat these determinations for each such employee at least monthly. The employer shall continue these monthly measurements until at least two consecutive measurements, taken at least seven (7) days apart, are below the permissible exposure limits, and thereafter the employer shall monitor at least quarterly.

(4) *Additional monitoring.* Whenever there has been a production, process, control, or personnel change which may result in new or additional exposures to AN, or whenever the employer has any other reason to suspect a change which may result in new or additional exposures to AN, additional monitoring which complies with this paragraph shall be conducted.

(5) *Employee notification.* (i) Within five (5) working days after the receipt of the results of monitoring required by this paragraph, the employer shall notify each employee in writing of the results which represent that employee's exposure.

(ii) Whenever the results indicate that the representative employee exposure exceeds the permissible exposure limits, the employer shall include in the written notice a statement that the permissible exposure limits were exceeded and a description of the corrective action being taken to reduce exposure to or below the permissible exposure limits.

(6) *Accuracy of measurement.* The method of measurement of employee exposures shall be accurate to a confidence level of 95 percent, to within plus or minus 35 percent for concentrations of AN at or above the permissible exposure limits, and plus or minus 50 percent for concentrations of AN below the permissible exposure limits.

(f) *Regulated areas.* (1) The employer shall establish regulated areas where AN concentrations are in excess of the permissible exposure limits.

(2) Regulated areas shall be demarcated and segregated from the rest of the workplace, in any manner that minimizes the number of persons who will be exposed to AN.

(3) Access to regulated areas shall be limited to authorized persons or to persons otherwise authorized by the act or regulations issued pursuant thereto.

(4) The employer shall assure that food or beverages are not present or consumed, tobacco products are not present or used, and cosmetics are not applied in the regulated area.

(g) *Methods of compliance*—(1) *Engineering and work practice controls.* (i) By November 2, 1980, the employer shall institute engineering and work practice controls to reduce and maintain employee exposures to AN, to or below the permissible exposure limits, except to the extent that the employer establishes that such controls are not feasible.

(ii) Wherever the engineering and work practice controls which can be instituted are not sufficient to reduce employee exposures to or below the permissible exposure limits, the employer shall nonetheless use them to reduce exposures to the lowest levels achievable by these controls, and shall supplement them by the use of respiratory protection which complies with the requirements of paragraph (h) of this section.

(2) *Compliance program.* (i) The employer shall establish and implement a written program to reduce employee exposures to or below the permissible exposure limits solely by means of engineering and work practice controls, as required by paragraph (g)(1) of this section.

(ii) Written plans for these compliance programs shall include at least the following:

(A) A description of each operation or process resulting in employee exposure to AN above the permissible exposure limits;

(B) An outline of the nature of the engineering controls and work practices to be applied to the operation or process in question;

(C) A report of the technology considered in meeting the permissible exposure limits;

(D) A schedule for implementation of engineering and work practice controls for the operation or process, which shall project completion no later than November 2, 1980; and

(E) Other relevant information.

(iii) The employer shall complete the steps set forth in the compliance program by the dates in the schedule.

(iv) Written plans shall be submitted upon request to the Assistant Secretary and the Director, and shall be available at the worksite for examination and copying by the Assistant Secretary, the Director, or any affected employee or representative.

(v) The plans required by this paragraph shall be revised and updated at least every six (6) months to reflect the current status of the program.

(h) *Respiratory protection*—(1) *General.* The employer shall assure that respirators are used where required by this section to reduce employee exposure to within the permissible exposure limits. Respirators shall be used in the following circumstances:

(i) During the time period necessary to install or implement feasible engineering and work practice controls;

(ii) In work operations, such as maintenance and repair activities or reactor cleaning, in which the employer establishes that engineering and work practice controls are not feasible;

(iii) In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the permissible exposure limits; and

(iv) In emergencies.

(2) *Respirator selection.* (i) Where respiratory protection is required under this section, the employer shall select and provide, at no cost to the employee, the appropriate type of respirator from table I below, and shall assure that the employee wears the respirator provided.

TABLE I—RESPIRATORY PROTECTION FOR ACRYLONITRILE (AN)

Concentration of AN or condition of use	Respirator type
(a) Less than or equal to 20 ppm	(1) Chemical cartridge respirator with organic vapor cartridge(s) and half-mask facepiece; or (2) Supplied air respirator with half-mask facepiece.
(b) Less than or equal to 100 ppm or maximum use concentration (MUC) of cartridges or canisters, whichever is lower.	(1) Full facepiece respirator with (A) organic vapor cartridges, (B) organic vapor gas mask chin-style, or (C) organic vapor gas mask canister, front- or back-mounted; (2) Supplied air respirator with full facepiece; or (3) Self-contained breathing apparatus with full facepiece.
(c) Less than or equal to 4,000 ppm	(1) Supplied air respirator operated in the positive pressure mode with full facepiece, helmet, suit, or hood.
(d) Greater than 4,000 ppm or unknown concentration	(1) Supplied air and auxiliary self-contained breathing apparatus with full facepiece in positive pressure mode; or (2) Self-contained breathing apparatus with full facepiece in positive pressure mode.
(e) Firefighting	Self-contained breathing apparatus with full facepiece in positive pressure mode.
(f) Escape	(1) Any organic vapor respirator, or (2) Any self-contained breathing apparatus.

(ii) The employer shall select respirators from among those approved for use with organic vapors by the National Institute for Occupational Safety and Health under the provisions of 30 CFR part 11.

(3) *Respirator program.* (i) The employer shall institute a respiratory protection program in accordance with 29 CFR 1926.103 (e), (g), (h), and (i).

(ii) Where air/purifying respirators (chemical cartridge- or canister-type) are used, the air-purifying canister or cartridge(s) shall be replaced prior to the expiration of their service life or at the completion of each shift, whichever occurs first. A label shall be attached to the cartridge or canister to indicate the date and time at which it is first installed on the respirator.

(iii) *Testing.* Fit testing of respirators shall be performed to assure that the respirator selected provides the protection required by table I.

(A) *Qualitative fit.* The employer shall perform qualitative fit tests at the time of initial fitting and at least semiannually thereafter for each employee wearing respirators.

(B) *Quantitative fit.* Each employer with more than 10 employees wearing negative pressure respirators shall perform quantitative fit testing at the time of initial fitting and at least semiannually thereafter for each such employee.

(iv) Employees who wear respirators shall be allowed to wash their faces and to wipe clean the face-to-facepiece seals on their respirators to minimize potential skin irritation associated with respirator use.

(i) *Emergency situations*—(1) *Written plans.* (i) A written plan for emergency situations shall be developed for each workplace where liquid AN is present. Appropriate portions of the plan shall be implemented in the event of an emergency.

(ii) The plan shall specifically provide that employees engaged in correcting emergency conditions shall be equipped as required in paragraph (h) of this section until the emergency is abated.

(iii) Employees not engaged in correcting the emergency shall be evacuated from the area and shall not be permitted to return until the emergency is abated.

(2) *Alerting employees.* Where there is the possibility of employee exposure to AN in excess of the ceiling limit, a general alarm shall be installed and used to promptly alert employees of such occurrences.

(j) *Protective clothing and equipment*—(1) *Provision and use.* Where eye or skin contact with liquid AN may occur, the employer shall provide at no cost to the employee, and assure that employees wear, impermeable protective clothing or other equipment to protect any area of the body which may come in contact with liquid AN. The provision of §§ 1926.95 and 1926.102 shall be complied with.

(2) *Cleaning and replacement.* (i) The employer shall clean, launder, maintain, or replace protective clothing and equipment required by this section as needed to maintain their effectiveness.

(ii) The employer shall assure that impermeable protective clothing which contacts or is likely to have contacted liquid AN shall be decontaminated before being removed by the employee.

(iii) The employer shall assure that an employee whose nonimpermeable clothing becomes wetted with liquid AN shall immediately remove that clothing and proceed to shower. The clothing shall be decontaminated before it is removed from the regulated area.

(iv) The employer shall assure that no employee removes protective clothing or equipment from the change room, except for those employees authorized to do so for the purpose of laundering, maintenance, or disposal.

(v) The employer shall inform any person who launders or cleans protective clothing or equipment of the potentially harmful effects of exposure to AN.

(k) *Housekeeping.* (1) All surfaces shall be maintained free of visible accumulations of liquid AN.

(2) For operations involving liquid AN, the employer shall institute a program for detecting leaks and spills of liquid AN, including regular visual inspections.

(3) Where spills of liquid AN are detected, the employer shall assure that surfaces contacted by the liquid AN are decontaminated. Employees not engaged in decontamination activities shall leave the area of the spill, and shall not be permitted in the area until decontamination is completed.

(l) *Waste disposal.* AN waste, scrap, debris, bags, containers, or equipment shall be decontaminated before being incorporated in the general waste disposal system.

(m) *Hygiene facilities and practices.* (1) Where employees are exposed to airborne concentrations of AN above the permissible exposure limits, or where employees are required to wear protective clothing or equipment pursuant to paragraph (j) of this section, the facilities required by 29 CFR 1926.51, including clean change rooms and shower facilities, shall be provided by the employer for the use of those employees, and the employer shall assure that the employees use the facilities provided.

(2) The employer shall assure that employees wearing protective clothing

or equipment for protection from skin contact with liquid AN shall shower at the end of the work shift.

(3) The employer shall assure that, in the event of skin or eye exposure to liquid AN, the affected employee shall shower immediately to minimize the danger of skin absorption.

(4) The employer shall assure that employees working in the regulated area wash their hands and faces prior to eating.

(n) *Medical surveillance*—(1) *General.* (i) The employer shall institute a program of medical surveillance for each employee who is or will be exposed to AN at or above the action level, without regard to the use of respirators. The employer shall provide each such employee with an opportunity for medical examinations and tests in accordance with this paragraph.

(ii) The employer shall assure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and that they shall be provided without cost to the employee.

(2) *Initial examinations.* At the time of initial assignment, or upon institution of the medical surveillance program, the employer shall provide each affected employee an opportunity for a medical examination, including at least the following elements:

(i) A work history and medical history with special attention to skin, respiratory, and gastrointestinal systems, and those nonspecific symptoms, such as headache, nausea, vomiting, dizziness, weakness, or other central nervous system dysfunctions that may be associated with acute or with chronic exposure to AN;

(ii) A complete physical examination giving particular attention to the peripheral and central nervous system, gastrointestinal system, respiratory system, skin, and thyroid;

(iii) A 14- by 17-inch (35.56 × 43.18 cm) posteroanterior chest X-ray; and

(iv) Further tests of the intestinal tract, including fecal occult blood screening, for all workers 40 years of age or older, and for any other affected employees for whom, in the opinion of the physician, such testing is appropriate.

(3) *Periodic examinations.* (i) The employer shall provide the examinations specified in paragraph (n)(2) of this section at least annually for all employees specified in paragraph (n)(1) of this section.

(ii) If an employee has not had the examination specified in paragraph (n)(2) of this section within 6 months preceding termination of employment, the employer shall make such examination available to the employee prior to such termination.

(4) *Additional examinations.* If the employee for any reason develops signs or symptoms which may be associated with exposure to AN, the employer shall provide an appropriate examination and emergency medical treatment.

(5) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this standard and its appendixes;

(ii) A description of the affected employee's duties as they relate to the employee's exposure;

(iii) The employee's representative exposure level;

(iv) The employee's anticipated or estimated exposure level (for preplacement examinations or in cases of exposure due to an emergency);

(v) A description of any personal protective equipment used or to be used; and

(vi) Information from previous medical examinations of the affected employee, which is not otherwise available to the examining physician.

(6) *Physician's written opinion.* (i) The employer shall obtain a written opinion from the examining physician which shall include:

(A) The results of the medical examination and test performed;

(B) The physician's opinion as to whether the employee has any detected medical condition(s) which would place the employee at an increased risk of material impairment of the employee's health from exposure to AN;

(C) Any recommended limitations upon the employee's exposure to AN or upon the use of protective clothing and equipment such as respirators; and

(D) A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

(ii) The employer shall instruct the physician not to reveal in the written opinion specific findings or diagnoses unrelated to occupational exposure to AN.

(iii) The employer shall provide a copy of the written opinion to the affected employee.

(o) *Employee information and training*—(1) *Training program.* (i) By January 2, 1979, the employer shall institute a training program for and assure the participation of all employees exposed to AN above the action level, all employees whose exposures are maintained below the action level by engineering and work practice controls, and all employees subject to potential skin or eye contact with liquid AN.

(ii) Training shall be provided at the time of initial assignment, or upon institution of the training program, and at least annually thereafter, and the employer shall assure that each employee is informed of the following:

(A) The information contained in appendixes A and B;

(B) The quantity, location, manner of use, release, or storage of AN, and the specific nature of operations which could result in exposure to AN, as well as any necessary protective steps;

(C) The purpose, proper use, and limitations of respirators and protective clothing;

(D) The purpose and a description of the medical surveillance program required by paragraph (n) of this section;

(E) The emergency procedures developed, as required by paragraph (i) of this section;

(F) Engineering and work practice controls, their function, and the employee's relationship to these controls; and

(G) A review of this standard.

(2) *Access to training materials.* (i) The employer shall make a copy of this standard and its appendixes readily available to all affected employees.

(ii) The employer shall provide, upon request, all materials relating to the employee information and training program to the Assistant Secretary and the Director.

(p) *Signs and labels*—(1) *General.* (i) The employer may use labels or signs required by other statutes, regulations, or ordinances in addition to, or in combination with, signs and labels required by this paragraph.

(ii) The employer shall assure that no statement appears on or near any sign or label required by this paragraph which contradicts or detracts from the required sign or label.

(2) *Signs.* (i) The employer shall post signs to clearly indicate all workplaces where AN concentrations exceed the permissable exposure limits. The signs shall bear the following legend:

DANGER
ACRYLONITRILE (AN)
CANCER HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS MAY BE
REQUIRED

(ii) The employer shall assure that signs required by this paragraph are illuminated and cleaned as necessary so that the legend is readily visible.

(3) *Labels.* (i) The employer shall assure that precautionary labels are affixed to all containers of liquid AN

and AN-based materials not exempted under paragraph (a)(2) of this standard. The employer shall assure that the lables remain affixed when the materials are sold, distributed, or otherwise leave the employer's workplace.

(ii) The employer shall assure that the precautionary labels required by this paragraph are readily visible and legible. The labels shall bear the following legend:

DANGER
CONTAINS ACRYLONITRILE (AN)
CANCER HAZARD

(q) *Recordkeeping*—(1) *Objective data for exempted operations.* (i) Where the processing, use, and handling of materials made from or containing AN are exempted pursuant to paragraph (a)(2)(ii) of this section, the employer shall establish and maintain an accurate record of objective data reasonably relied upon in support of the exemption.

(ii) This record shall include at least the following information:

(A) The material qualifying for exemption;

(B) The source of the objective data;

(C) The testing protocol, results of testing, and/or analysis of the material for the release of AN;

(D) A description of the operation exempted and how the data supports the exemption; and

(E) Other data relevant to the operations, materials, and processing covered by the exemption.

(iii) The employer shall maintain this record for the duration of the employer's reliance upon such objective data.

(2) *Exposure monitoring.* (i) The employer shall establish and maintain an accurate record of all monitoring required by paragraph (e) of this section.

(ii) This record shall include:

(A) The dates, number, duration, and results of each of the samples taken, including a description of the sampling procedure used to determine representative employee exposure;

(B) A description of the sampling and analytical methods used and the data relied upon to establish that the methods used meet the accuracy and precision requirements of paragraph (e)(6) of this section;

(C) Type of respiratory protective devices worn, if any; and

(D) Name, social security number, and job classification of the employee monitored and of all other employees whose exposure the measurement is intended to represent.

(iii) The employer shall maintain this record for at least forty (40) years, or for the duration of employment plus twenty (20) years, whichever is longer.

(3) *Medical surveillance.* (i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance as required by paragraph (n) of this section.

(ii) This record shall include:

(A) A copy of the physician's written opinions;

(B) Any employee medical complaints related to exposure to AN;

(C) A copy of the information provided to the physician as required by paragraph (n)(5) of this section; and

(D) A copy of the employee's medical and work history.

(iii) The employer shall assure that this record be maintained for at least forty (40) years, or for the duration of employment plus twenty (20) years, whichever is longer.

(4) *Availability.* (i) The employer shall make all records required to be maintained by this section available, upon request, to the Assistant Secretary and the Director for examination and copying.

(ii) Records required by paragraphs (q)(1) through (q)(3) of this section shall be provided upon request to employees, designated representatives, and the Assistant Secretary in accordance with 29 CFR 1926.33 (a) through (e) and (q) through (i). Records required by paragraph (g)(1) shall be provided in the same manner as exposure monitoring records.

(5) *Transfer of records.* (i) Whenever the employer ceases to do business, the successor employer shall receive and retain all records required to be maintained by this section for the prescribed period.

(ii) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, these records shall be transmitted to the Director.

(iii) At the expiration of the retention period for the records required to be maintained pursuant to this section, the employer shall notify the Director at least 3 months prior to the disposal of the records, and shall transmit them to the Director upon request.

(iv) The employer shall also comply with any additional requirements involving transfer of records set forth in 29 CFR 1926.33(h).

(r) *Observation of monitoring*—(1) *Employee observation.* The employer shall provide affected employees, or their designated representatives, an opportunity to observe any monitoring of employee exposure to AN conducted pursuant to paragraph (e) of this section.

(2) *Observation procedures.* (i) Whenever observation of the monitoring of employee exposure to AN requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the observer with personal protective clothing and equipment required to be worn by employees working in the area, assure the use of such clothing and equipment, and require the observer to comply with all other applicable safety and health procedures.

(ii) Without interfering with the monitoring, observers shall be entitled:

(A) To receive an explanation of the measurement procedures;

(B) To observe all steps related to the measurement of airborne concentrations of AN performed at the place of exposure; and

(C) To record the results obtained.

(s) *Effective date:* (1) This section shall become effective November 2, 1978.

(2) Monitoring and medical surveillance conducted since January 17, 1978, under the provisions of the emergency temporary standard may be relied upon by the employer to meet the initial monitoring and initial medical surveillance requirements of this section.

(3) Training programs must be implemented by January 2, 1979.

(4) Engineering and work practice controls required by paragraph (g) of this section shall be implemented no later than November 2, 1980.

(t) *Appendixes.* The information contained in the appendixes is not intended, by itself, to create any additional obligation not otherwise imposed, or to detract from any obligation.

(Approved by the Office of Management and Budget under control number 1218–0126)

Appendix A to § 1926.1145—Substance Safety Data Sheet for Acrylonitrile

I. Substance identification

A. Substance: Acrylonitrile (CH_2 CHCN).

B. Synonyms: Propenenitrile; vinyl cyanide; cyanoethylene; AN; VCN; acylon; carbacryl; fumigrian; ventox.

C. Acrylonitrile can be found as a liquid or vapor, and can also be found in polymer resins, rubbers, plastics, polyols, and other polymers having acrylonitrile as a raw or intermediate material.

D. AN is used in the manufacture of acrylic and modiacrylic fibers, acrylic plastics and resins, speciality polymers, nitrile rubbers, and other organic chemicals. It has also been used as a fumigant.

E. Appearance and odor: Colorless to pale yellow liquid with a pungent odor which can only be detected at concentrations above the permissible exposure level, in a range of 13–19 parts AN per million parts of air (13–19 ppm).

F. Permissible exposure: Exposure may not exceed either:

1. Two parts AN per million parts of air (2 ppm) averaged over the 8-hour workday; or

2. Ten parts AN per million parts of air (10 ppm) averaged over any 15-minute period in the workday.

3. In addition, skin and eye contact with liquid AN is prohibited.

II. Health hazard data

A. Acrylonitrile can affect your body if you inhale the vapor (breathing), if it comes in contact with your eyes or skin, or if you swallow it. It may enter your body through your skin.

B. Effects of overexposure: 1. Short-term exposure: Acrylonitrile can cause eye irritation, nausea, vomiting, headache, sneezing, weakness, and light-headedness. At high concentrations, the effects of exposure may go on to loss of consciousness and death. When acrylonitrile is held in contact with the skin after being absorbed into shoe leather or clothing, it may produce blisters following several hours of no apparent effect. Unless the shoes or clothing are removed immediately and the area washed, blistering will occur. Usually there is no pain or inflammation associated with blister formation.

2. Long-term exposure: Acrylonitrile has been shown to cause cancer in laboratory animals and has been associated with higher incidences of cancer in humans. Repeated or prolonged exposure of the skin to acrylonitrile may produce irritation and dermatitis.

3. Reporting signs and symptoms: You should inform your employer if you develop any signs or symptoms and suspect they are caused by exposure to acrylonitrile.

III. Emergency first aid procedures

A. Eye exposure: If acrylonitrile gets into your eyes, wash your eyes immediately with large amounts of water, lifting the lower and upper lids occasionally. Get medical attention immediately. Contact lenses should not be worn when working with this chemical.

B. Skin exposure: If acrylonitrile gets on your skin, immediately wash the contaminated skin with water. If acrylonitrile soaks through your clothing, especially your shoes, remove the clothing immediately and wash the skin with water. If symptoms occur after washing, get medical attention immediately. Thoroughly wash the clothing before reusing. Contaminated leather shoes or other leather articles should be discarded.

C. Inhalation: If you or any other person breathes in large amounts of acrylonitrile, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.

D. Swallowing: When acrylonitrile has been swallowed, give the person large quantities of water immediately. After the water has been swallowed, try to get the person to vomit by having him touch the back of his throat with his finger. Do not make an unconscious person vomit. Get medical attention immediately.

E. Rescue: Move the affected person from the hazardous exposure. If the exposed person has been overcome, notify someone else and put into effect the established emergency procedures. Do not become a casualty yourself. Understand your emergency rescue procedures and know the location of the emergency equipment before the need arises.

F. Special first aid procedures: First aid kits containing an adequate supply (at least two dozen) of amyl nitrite pearls, each containing 0.3 ml, should be maintained at each site where acrylonitrile is used. When a person is suspected of receiving an overexposure to acrylonitrile, immediately remove that person from the contaminated area using established rescue procedures. Contaminated clothing must be removed and the acrylonitrile washed from the skin immediately. Artificial respiration should be started at once if breathing has stopped. If the person is unconscious, amyl nitrite may be used as an antidote by a properly trained individual in accordance with established emergency procedures. Medical aid should be obtained immediately.

IV. Respirators and protective clothing

A. Respirators. You may be required to wear a respirator for nonroutine activities, in emergencies, while your employer is in the process of reducing acrylonitrile exposures through engineering controls, and in areas where engineering controls are not feasible. If respirators are worn, they must have a Mine Safety and Health Administration (MSHA or MESA) or National Institute for Occupational Safety and Health (NIOSH) label of approval for use with organic vapors. (Older respirators may have a Bureau of Mines approval label.) For effective protection, respirators must fit your face and head snugly. Respirators should not be loosened or removed in work situations where their use is required.

Acrylonitrile does not have a detectable odor except at levels above the permissible exposure limits. Do not depend on odor to warn you when a respirator cartridge or canister is exhausted. Cartridges or canisters must be changed daily or before the end-of-service-life, whichever comes first. Reuse of these may allow acrylonitrille to gradually filter through the cartridge and cause exposures which you cannot detect by odor. If you can smell acrylonitrile while wearing a respirator, proceed immediately to fresh air. If you experience difficulty breathing while wearing a respirator, tell your employer.

B. Supplied-air suits: In some work situations, the wearing of supplied-air suits may be necessary. Your employer must instruct you in their proper use and operation.

C. Protective clothing: You must wear impervious clothing, gloves, face shield, or other appropriate protective clothing to prevent skin contact with liquid acrylonitrile. Where protective clothing is required, your employer is required to provide clean garments to you as necessary to assume that the clothing protects you adequately.

Replace or repair impervious clothing that has developed leaks.

Acrylonitrile should never be allowed to remain on the skin. Clothing and shoes which are not impervious to acrylonitrile should not be allowed to become contaminated with acrylonitrile, and if they do the clothing and shoes should be promptly removed and decontaminated. The clothing should be laundered or discarded after the AN is removed. Once acrylonitrile penetrates shoes or other leather articles, they should not be worn again.

D. Eye protection: You must wear splashproof safety goggles in areas where liquid acrylonitrile may contact your eyes. In addition, contact lenses should not be worn in areas where eye contact with acrylonitrile can occur.

V. Precautions for safe use, handling, and storage

A. Acrylonitrile is a flammable liquid, and its vapors can easily form explosive mixtures in air.

B. Acrylonitrile must be stored in tightly closed containers in a cool, well-ventilated area, away from heat, sparks, flames, strong oxidizers (especially bromine), strong bases, copper, copper alloys, ammonia, and amines.

C. Sources of ignition such as smoking and open flames are prohibited wherever acrylonitrile is handled, used, or stored in a manner that could create a potential fire or explosion hazard.

D. You should use non-sparking tools when opening or closing metal containers of acrylonitrile, and containers must be bonded and grounded when pouring or transferring liquid acrylonitrile.

E. You must immediately remove any non-impervious clothing that becomes wetted with acrylonitrile, and this clothing must not be reworn until the acrylonitrile is removed from the clothing.

F. Impervious clothing wet with liquid acrylonitrile can be easily ignited. This clothing must be washed down with water before you remove it.

G. If your skin becomes wet with liquid acrylonitrile, you must promptly and thoroughly wash or shower with soap or mild detergent to remove any acrylonitrile from your skin.

H. You must not keep food, beverages, or smoking materials, nor are you permitted to eat or smoke in regulated areas where acrylonitrile concentrations are above the permissible exposure limits.

I. If you contact liquid acrylonitrile, you must wash your hands thoroughly with soap or mild detergent and water before eating, smoking, or using toilet facilities.

J. Fire extinguishers and quick drenching facilities must be readily available, and you should know where they are and how to operate them.

K. Ask your supervisor where acrylonitrile is used in your work area and for any additional plant safety and health rules.

VI. Access to information

A. Each year, your employer is required to inform you of the information contained in this Substance Safety Data Sheet for acrylonitrile. In addition, you employer must instruct you in the proper work practices for using acrylonitrile, emergency procedures, and the correct use of protective equipment.

B. Your employer is required to determine whether you are being exposed to

acrylonitrile. You or your representative has the right to observe employee measurements and to record the results obtained. Your employer is required to inform you of your exposure. If your employer determines that you are being overexposed, he or she is required to inform you of the actions which are being taken to reduce your exposure to within permissible exposure limits.

C. Your employer is required to keep records of your exposures and medical examinations. These records must be kept by the employer for at least forty (40) years or for the period of your employment plus twenty (20) years, whichever is longer.

D. Your employer is required to release your exposure and medical records to you or your representative upon your request.

Appendix B to § 1926.1145—Substance Technical Guidelines for Acrylonitrile

I. Physical and chemical data

A. Substance identification: 1. Synonyms: AN; VCN; vinyl cyanide; propenenitrile; cyanoethylene; Acrylon; Carbacryl; Fumigrain; Ventox.

2. Formula: $CH_2=CHCN$.

3. Molecular weight: 53.1.

B. Physical data: 1. Boiling point (760 mm Hg): 77.3° C (171° F);

2. Specific gravity (water=1): 0.81 (at 20° C or 68° F);

3. Vapor density (air=1 at boiling point of acrylonitrile): 1.83;

4. Melting point: −83° C (−117° F);

5. Vapor pressure (@20° F): 83 mm Hg;

6. Solubility in water, percent by weight @20° C (68° F): 7.35;

7. Evaporation rate (Butyl Acetate=1): 4.54; and

8. Appearance and odor: Colorless to pale yellow liquid with a pungent odor at concentrations above the permissible exposure level. Any detectable odor of acrylonitrile may indicate overexposure.

II. Fire, explosion, and reactivity hazard data

A. Fire: 1. Flash point: −1° C (30° F) (closed cup).

2. Autoignition temperature: 481° C (898° F).

3. Flammable limits air, percent by volume: Lower: 3, Upper: 17.

4. Extinguishing media: Alcohol foam, carbon dioxide, and dry chemical.

5. Special fire-fighting procedures: Do not use a solid stream of water, since the stream will scatter and spread the fire. Use water to cool containers exposed to a fire.

6. Unusual fire and explosion hazards: Acrylonitrile is a flammable liquid. Its vapors can easily form explosive mixtures with air. All ignition sources must be controlled where acrylonitrile is handled, used, or stored in a manner that could create a potential fire or explosion hazard. Acrylonitrile vapors are heavier than air and may travel along the ground and be ignited by open flames or sparks at locations remote from the site at which acrylonitrile is being handled.

7. For purposes of compliance with the requirements of 29 CFR 1910.106, acrylonitrile is classified as a class IB flammable liquid. For example, 7,500 ppm, approximately one-fourth of the lower flammable limit, would be considered to pose a potential fire and explosion hazard.

8. For purposes of compliance with 29 CFR 1910.157, acrylonitrile is classified as a Class B fire hazard.

9. For purpose of compliance with 29 CFR 1919.309, locations classified as hazardous due to the presence of acrylonitrile shall be Class I, Group D.

B. Reactivity:

1. Conditions contributing to instability: Acrylonitrile will polymerize when hot, and the additional heat liberated by the polymerization may cause containers to explode. Pure AN may self-polymerize, with a rapid build-up of pressure, resulting in an explosion hazard. Inhibitors are added to the commercial product to prevent self-polymerization.

2. Incompatibilities: Contact with strong oxidizers (especially bromine) and strong bases may cause fires and explosions. Contact with copper, copper alloys, ammonia, and amines may start serious decomposition.

3. Hazardous decompostion products: Toxic gases and vapors (such as hydrogen cyanide, oxides of nitrogen, and carbon monoxide) may be released in a fire involving acrylonitrile and certain polymers made from acrylonitrile.

4. Special precautions: Liquid acrylonitrile will attack some forms of plastics, rubbers, and coatings.

III. Spill, leak, and disposal procedures

A. If acrylonitrile is spilled or leaked, the following steps should be taken:

1. Remove all ignition sources.

2. The area should be evacuated at once and re-entered only after the area has been thoroughly ventilated and washed down with water.

3. If liquid acrylonitrile or polymer intermediate, collect for reclamation or absorb in paper, vermiculite, dry sand, earth, or similar material, or wash down with water into process sewer system.

B. Persons not wearing protective equipment should be restricted from areas of spills or leaks until clean-up has been completed.

C. Waste disposal methods: Waste material shall be disposed of in a manner that is not hazardous to employees or to the general population. Spills of acrylonitrile and flushing of such spills shall be channeled for appropriate treatment or collection for disposal. They shall not be channeled directly into the sanitary sewer system. In selecting the method of waste disposal, applicable local, State, and Federal regulations should be consulted.

IV. Monitoring and measurement procedures

A. Exposure above the Permissible Exposure Limit:

1. Eight-hour exposure evaluation: Measurements taken for the purpose of determining employee exposure under this section are best taken so that the average 8-hour exposure may be determined from a single 8-hour sample or two (2) 4-hour samples. Air samples should be taken in the employee's breathing zone (air that would most nearly represent that inhaled by the employee.)

2. Ceiling evaluation: Measurements taken for the purpose of determining employee exposure under this section must be taken during periods of maximum expected airborne concentrations of acrylonitrile in the employee's breathing zone. A minimum of three (3) measurements should be taken on one work shift. The average of all measurements taken is an estimate of the employee's ceiling exposure.

3. Monitoring techniques: The sampling and analysis under this section may be performed by collecting the acrylonitrile vapor on charcoal adsorption tubes or other composition adsorption tubes, with subsequent chemical analysis. Sampling and analysis may also be performed by instruments such as real-time continuous monitoring systems, portable direct-reading instruments, or passive dosimeters. Analysis of resultant samples should be by gas chromatograph.

Appendix D lists methods of sampling and analysis which have been tested by NIOSH and OSHA for use with acrylonitrile. NIOSH and OSHA have validated modifications of NIOSH Method S–156 (See Appendix D) under laboratory conditions for concentrations below 1 ppm. The employer has the obligation of selecting a monitoring method which meets the accuracy and precision requirements of the standard under his unique field conditions. The standard requires that methods of monitoring must be accurate, to a 95-percent confidence level, to ±35-percent for concentrations of AN at or above 2 ppm, and to ±50-percent for concentrations below 2 ppm. In addition to the methods described in Appendix D, there are numerous other methods available for monitoring for AN in the workplace. Details on these other methods have been submitted by various companies to the rulemaking record, and are available at the OSHA Docket Office.

B. Since many of the duties relating to employee exposure are dependent on the results of monitoring and measuring procedures, employers shall assure that the evaluation of employee exposures is performed by a competent industrial hygienist or other technically qualified person.

V. Protective clothing

Employees shall be provided with and required to wear appropriate protective clothing to prevent any possibility of skin contact with liquid AN. Because acrylonitrile is absorbed through the skin, it is important to prevent skin contact with liquid AN. Protective clothing shall include impermeable coveralls or similar full-body work clothing, gloves, head-coverings, as appropriate to protect areas of the body which may come in contact with liquid AN.

Employers should ascertain that the protective garments are impermeable to acrylonitrile. Non-impermeable clothing and shoes should not be allowed to become contaminated with liquid AN. If permeable clothing does become contaminated, it should be promptly removed, placed in a regulated area for removal of the AN, and not worn again until the AN is removed. If leather footwear or other leather garments

become wet from acrylonitrile, they should be replaced and not worn again, due to the ability of leather to absorb acrylonitrile and hold it against the skin. Since there is no pain associated with the blistering which may result from skin contact with liquid AN, it is essential that the employee be informed of this hazard so that he or she can be protected.

Any protective clothing which has developed leaks or is otherwise found to be defective shall be repaired or replaced. Clean protective clothing shall be provided to the employee as necessary to assure its protectiveness. Whenever impervious clothing becomes wet with liquid AN, it shall be washed down with water before being removed by the employee. Employees are also required to wear splash-proof safety goggles where there is any possibility of acrylonitrile contacting the eyes.

VI. Housekeeping and hygiene facilities

For purposes of complying with 29 CFR 1926.51, the following items should be emphasized:

A. The workplace should be kept clean, orderly, and in a sanitary condition. The employer is required to institute a leak and spill detection program for operations involving liquid AN in order to detect sources of fugitive AN emissions.

B. Dry sweeping and the use of compressed air is unsafe for the cleaning of floors and other surfaces where liquid AN may be found.

C. Adequate washing facilities with hot and cold water are to be provided, and maintained in a sanitary condition. Suitable cleansing agents are also to be provided to assure the effective removal of acrylonitrile from the skin.

D. Change or dressing rooms with individual clothes storage facilities must be provided to prevent the contamination of street clothes with acrylonitrile. Because of the hazardous nature of acrylonitrile, contaminated protective clothing should be placed in a regulated area designated by the employer for removal of the AN before the clothing is laundered or disposed of.

VII. Miscellaneous precautions

A. Store acrylonitrile in tightly-closed containers in a cool, well-ventilated area and take necessary precautions to avoid any explosion hazard.

B. High exposures to acrylonitrile can occur when transferring the liquid from one container to another.

C. Non-sparking tools must be used to open and close metal acrylonitrile containers. These containers must be effectively grounded and bonded prior to pouring.

D. Never store uninhibited acrylonitrile.

E. Acrylonitrile vapors are not inhibited. They may form polymers and clog vents of storage tanks.

F. Use of supplied-air suits or other impervious coverings may be necessary to prevent skin contact with and provide respiratory protection from acrylonitrile where the concentration of acrylonitrile is unknown or is above the ceiling limit. Supplied-air suits should be selected, used, and maintained under the immediate supervision of persons knowledgeable in the limitations and potential life-endangering characteristics of supplied-air suits.

G. Employers shall advise employees of all areas and operations where exposure to acrylonitrile could occur.

VIII. Common operations

Common operations in which exposure to acrylonitrile is likely to occur include the following: Manufacture of the acrylonitrile monomer; synthesis of acrylic fibers, ABS, SAN, and nitrile barrier plastics and resins, nitrile rubber, surface coatings, specialty chemicals, use as a chemical intermediate, use as a fumigant and in the cyanoethylation of cotton.

Appendix C to § 1926.1145—Medical Surveillance Guidelines for Acrylonitrile

I. Route of entry

Inhalation; skin absorption; ingestion.

II. Toxicology

Acrylonitrile vapor is an asphyxiant due to inhibitory action on metabolic enzyme systems. Animals exposed to 75 or 100 ppm for 7 hours have shown signs of anoxia; in some animals which died at the higher level, cyanomethemoglobin was found in the blood. Two human fatalities from accidental poisioning have been reported; one was caused by inhalation of an unknown concentration of the vapor, and the other was thought to be caused by skin absorption or inhalation. Most cases of intoxication from industrial exposure have been mild, with rapid onset of eye irritation, headache, sneezing, and nausea. Weakness, lightheadedness, and vomiting may also occur. Exposure to high concentrations may produce profound weakness, asphyxia, and death. The vapor is a severe eye irritant. Prolonged skin contract with the liquid may result in absorption with systemic effects, and in the formation of large blisters after a latent period of several hours. Although there is usually little or no pain or inflammation, the affected skin resembles a second-degree thermal burn. Solutions spilled on exposed skin, or on areas covered only by a light layer of clothing, evaporate rapidly, leaving no irritation, or, at the most, mild transient redness. Repeated spills on exposed skin may result in dermatitis due to solvent effects.

Results after 1 year of a planned 2-year animal study on the effects of exposure to acrylonitrile have indicated that rats ingesting as little as 35 ppm in their drinking water develop tumors of the central nervous system. The interim results of this study have been supported by a similar study being conducted by the same laboratory, involving exposure of rats by inhalation of acrylonitrile vapor, which has shown similar types of tumors in animals exposed to 80 ppm.

In addition, the preliminary results of an epidemiological study being performed by duPont on a cohort of workers in their Camden, S.C. acrylic fiber plant indicate a statistically significant increase in the incidence of colon and lung cancers among employees exposed to acrylonitrile.

III. Signs and symptoms of acute overexposure

Asphyxia and death can occur from exposure to high concentrations of acrylonitrile. Symptoms of overexposure include eye irritation, headache, sneezing, nausea and vomiting, weakness, and light-headedness. Prolonged skin contact can cause blisters on the skin with appearance of a second-degree burn, but with little or no pain. Repeated skin contact may produce scaling dermatits.

IV. Treatment of acute overexposure

Remove employee from exposure. Immediately flush eyes with water and wash skin with soap or mild detergent and water. If AN has been swallowed, and person is conscious, induce vomiting. Give artificial resuscitation if indicated. More severe cases, such as those associated with loss of consciousness, may be treated by the intravenous administration of sodium nitrite, followed by sodium thiosulfate, although this is not as effective for acrylonitrile poisoning as for inorganic cyanide poisoning.

V. Surveillance and preventive considerations

A. As noted above, exposure to acrylonitrile has been linked to increased incidence of cancers of the colon and lung in employees of the duPont acrylic fiber plant in Camden, S.C. In addition, the animal testing of acrylonitrile has resulted in the development of cancers of the central nervous system in rats exposed by either inhalation or ingestion. The physician should be aware of the findings of these studies in evaluating the health of employees exposed to acrylonitrile.

Most reported acute effects of occupational exposure to acrylonitrile are due to its ability to cause tissue anoxia and asphyxia. The effects are similar to those caused by hydrogen cyanide. Liquid acrylonitrile can be absorbed through the skin upon prolonged contact. The liquid readily penetrates leather, and will produce burns of the feet if footwear contaminated with acrylonitrile is not removed.

It is important for the physician to become familiar with the operating conditions in which exposure to acrylonitrile may occur. Those employees with skin diseases may not tolerate the wearing of whatever protective clothing may be necessary to protect them from exposure. In addition, those with chronic respiratory disease may not tolerate the wearing of negative-pressure respirators.

B. Surveillance and screening. Medical histories and laboratory examinations are required for each employee subject to exposure to acrylonitrile above the action level. The employer must screen employees for history of certain medical conditions which might place the employee at increased risk from exposure.

1. *Central nervous system dysfunction.* Acute effects of exposure to acrylonitrile generally involve the central nervous system. Symptoms of acrylonitrile exposure include headache, nausea, dizziness, and general weakness. The animal studies cited above suggest possible carcinogenic effects of acrylonitrile on the central nervous system,

since rats exposed by either inhalation or ingestion have developed similar CNS tumors.

2. *Respiratory disease.* The du Pont data indicate an increased risk of lung cancer among employees exposed to acrylonitrile.

3. *Gastrointestinal disease.* The du Pont data indicate an increased risk of cancer of the colon among employees exposed to acrylonitrile. In addition, the animal studies show possible tumor production in the stomachs of the rats in the ingestion study.

4. *Skin disease.* Acrylonitrile can cause skin burns when prolonged skin contact with the liquid occurs. In addition, repeated skin contact with the liquid can cause dermatitis.

5. *General.* The purpose of the medical procedures outlined in the standard is to establish a baseline for future health monitoring. Persons unusually susceptible to the effects of anoxia or those with anemia would be expected to be at increased risk. In addition to emphasis on the CNS, respiratory and gastro-intestinal systems, the cardiovascular system, liver, and kidney function should also be stressed.

Appendix D to § 1926.1145—Sampling and Analytical Methods for Acrylonitrile

There are many methods available for monitoring employee exposures to acrylonitrile. Most of these involve the use of charcoal tubes and sampling pumps, with analysis by gas chromatograph. The essential differences between the charcoal tube methods include, among others, the use of different desorbing solvents, the use of different lots of charcoal, and the use of different equipment for analysis of the samples.

Besides charcoal, considerable work has been performed on methods using porous polymer sampling tubes and passive dosimeters. In addition, there are several portable gas analyzers and monitoring units available on the open market.

This appendix contains details for the methods which have been tested at OSHA Analytical Laboratory in Salt Lake City, and NIOSH in Cincinnati. Each is a variation on NIOSH Method S–156, which is also included for reference. This does not indicate that these methods are the only ones which will be satisfactory. There also may be workplace situations in which these methods are not adequate, due to such factors as high humidity. Copies of the other methods available to OSHA are available in the rulemaking record, and may be obtained from the OSHA Docket Office. These include, the Union Carbide, Monsanto, Dow Chemical and Dow Badische methods, as well as NISOH Method P & CAM 127.

Employers who note problems with sample breakthrough should try larger charcoal tubes. Tubes of larger capacity are available, and are often used for sampling vinyl chloride. In addition, lower flow rates and shorter sampling times should be beneficial in minimizing breakthrough problems.

Whatever method the employer chooses, he must assure himself of the method's accuracy and precision under the unique conditions present in his workplace.

NIOSH Method S–156 (Unmodified)

Analyte: Acrylonitrile.
Matrix: Air.
Procedure: Absorption on charcoal, desorption with methanol, GC.

1. *Principle of the method* (Reference 11.1).

1.1 A known volume of air is drawn through a charcoal tube to trap the organic vapors present.

1.2 The charcoal in the tube is transferred to a small, stoppered sample container, and the analyte is desorbed with methanol.

1.3 An aliquot of the desorbed sample is injected into a gas chromatograph.

1.4 The area of the resulting peak is determined and compared with areas obtained for standards.

2. *Range and sensitivity.*

2.1 This method was validated over the range of 17.5–70.0 mg/cu m at an atmospheric temperature and pressure of 22° C and 760 MM Hg, using a 20-liter sample. Under the conditions of sample size (20–liters) the probable useful range of this method is 4.5–135 mg-cu m. The method is capable of measuring much smaller amounts if the desorption efficiency is adequate. Desorption efficiency must be determined over the range used.

2.2 The upper limit of the range of the method is dependent on the adsorptive capacity of the charcoal tube. This capacity varies with the concentrations of acrylonitrile and other substances in the air. The first section of the charcoal tube was found to hold at least 3.97 mg of acrylonitrile when a test atmosphere containing 92.0 mg/cu m of acrylonitrile in air was sampled 0.18 liter per minute for 240 minutes; at that time the concentration of acrylonitrile in the effluent was less than 5 percent of that in the influent. (The charcoal tube consists of two sections of activated charcoal separated by a section of urethane foam. See section 6.2.) If a particular atmosphere is suspected of containing a large amount of contaminant, a smaller sampling volume should be taken.

3. *Interference.*

3.1 When the amount of water in the air is so great that condensation actually occurs in the tube, organic vapors will not be trapped efficiently. Preliminary experiments using toluene indicate that high humidity severely decreases the breakthrough volume.

3.2 When interfering compounds are known or suspected to be present in the air, such information, including their suspected identities, should be transmitted with the sample.

3.3 It must be emphasized that any compound which has the same retention time as the analyte at the operating conditions described in this method is an interference. Retention time data on a single column cannot be considered proof of chemical identity.

3.4 If the possibility of interference exists, separation conditions (column packing, temperature, etc.) must be changed to circumvent the problem.

4. *Precision and accuracy.*

4.1 The Coefficient of Variation (CV_T) for the total analytical and sampling method in the range of 17.5–70.0 mg/cu m was 0.073. This value corresponds to a 3.3 mg/cu m standard deviation at the (previous) OSHA standard level (20 ppm). Statistical information and details of the validation and experimental test procedures can be found in Reference 11.2.

4.2 On the average the concentrations obtained at the 20 ppm level using the overall sampling and analytical method were 6.0 percent lower than the "true" concentrations for a limited number of laboratory experiments. Any difference between the "found" and "true" concentrations may not represent a bias in the sampling and analytical method, but rather a random variation from the experimentally determined "true" concentration. Therefore, no recovery correction should be applied to the final result in section 10.5.

5. *Advantages and disadvantages of the method.*

5.1 The sampling device is small, portable, and involves no liquids. Interferences are minimal, and most of those which do occur can be eliminated by altering chromatographic conditions. The tubes are analyzed by means of a quick, instrumental method.

The method can also be used for the simultaneous analysis of two or more substances suspected to be present in the same sample by simply changing gas chromatographic conditions.

5.2 One disadvantage of the method is that the amount of sample which can be taken is limited by the number of milligrams that the tube will hold before overloading. When the sample value obtained for the backup section of the charcoal tube exceeds 25 percent of that found on the front section, the possibility of sample loss exists.

5.3 Furthermore, the precision of the method is limited by the reproducibility of the pressure drop across the tubes. This drop will affect the flow rate and cause the volume to be imprecise, because the pump is usually calibrated for one tube only.

6. *Apparatus.*

6.1 A calibrated personal sampling pump whose flow can be determined within ±5 percent at the recommended flow rate. (Reference 11.3).

6.2 Charcoal tubes: Glass tubes with both ends flame sealed, 7 cm long with a 6-mm O.D. and a 4-mm I.D., containing 2 sections of 20/40 mesh activated charcoal separated by a 2-mm portion of urethane foam. The activated charcoals prepared from coconut shells and is fired at 600° C prior to packing. The adsorbing section contains 100 mg of charcoal, the backup section 50 mg. A 3-mm portion of urethane foam is placed between the outlet end of the tube and the backup section. A plug of silicated glass wool is placed in front of the adsorbing section. The pressure drop across the tube must be less than 1 inch of mercury at a flow rate of 1 liter per minute.

6.3 Gas chromatograph equipped with a flame ionization detector.

6.4 Column (4–ftx¼-in stainless steel) packed with 50/80 mesh Poropak, type Q.

6.5 An electronic integrator or some other suitable method for measuring peak areas.

6.6 Two-milliliter sample containers with glass stoppers or Teflon-lined caps. If an

automatic sample injector is used, the associated vials may be used.

6.7 Microliter syringes: 10-microliter and other convenient sizes for making standards.

6.8 Pipets: 1.0-ml delivery pipets.

6.9 Volumetric flask: 10-ml or convenient sizes for making standard solutions.

7. *Reagents.*

7.1 Chromatographic quality methanol.

7.2 Acrylonitrile, reagent grade.

7.3 Hexane, reagent grade.

7.4 Purified nitrogen.

7.5 Prepurified hydrogen.

7.6 Filtered compressed air.

8. *Procedure.*

8.1 Cleaning of equipment. All glassware used for the laboratory analysis should be detergent washed and thoroughly rinsed with tap water and distilled water.

8.2 Calibration of personal pumps. Each personal pump must be calibrated with a representative charcoal tube in the line. This will minimize errors associated with uncertainties in the sample volume collected.

8.3 Collection and shipping of samples.

8.3.1 Immediately before sampling, break the ends of the tube to provide an opening at least one-half the internal diameter of the tube (2 mm).

8.3.2 The smaller section of charcoal is used as a backup and should be positioned nearest the sampling pump.

8.3.3 The charcoal tube should be placed in a vertical direction during sampling to minimize channeling through the charcoal.

8.3.4 Air being sampled should not be passed through any hose or tubing before entering the charcoal tube.

8.3.5 A maximum sample size of 20 liters is recommended. Sample at a flow of 0.20 liter per minute or less. The flow rate should be known with an accuracy of at least ±5 percent.

8.3.6 The temperature and pressure of the atmosphere being sampled should be recorded. If pressure reading is not available, record the elevation.

8.3.7 The charcoal tubes should be capped with the supplied plastic caps immediately after sampling. Under no circumstances should rubber caps be used.

8.3.8 With each batch of 10 samples submit one tube from the same lot of tubes which was used for sample collection and which is subjected to exactly the same handling as the samples except that no air is drawn through it. Label this as a blank.

8.3.9 Capped tubes should be packed tightly and padded before they are shipped to minimize tube breakage during shipping.

8.3.10 A sample of the bulk material should be submitted to the laboratory in a glass container with a Teflon-lined cap. This sample should not be transported in the same container as the charcoal tubes.

8.4 Analysis of samples.

8.4.1 Preparation of samples. In preparation for analysis, each charcoal tube is scored with a file in front of the first section of charcoal and broken open. The glass wool is removed and discarded. The charcoal in the first (larger) section is transferred to a 2-ml stoppered sample container. The separating section of foam is removed and discarded; the second section is transferred to another stoppered container. These two sections are analyzed separately.

8.4.2 Desorption of samples. Prior to analysis, 1.0 ml of methanol is pipetted into each sample container. Desorption should be done for 30 minutes. Tests indicate that this is adequate if the sample is agitated occasionally during this period. If an automatic sample injector is used, the sample vials should be capped as soon as the solvent is added to minimize volatilization.

8.4.3 GC conditions. The typical operating conditions for the gas chromatograph are:

1. 50 ml/min (60 psig) nitrogen carrier gas flow.
2. 65 ml/min (24 psig) hydrogen gas flow to detector.
3. 500 ml/min (50 psig) air flow to detector.
4. 235° C injector temperature.
5. 255° C manifold temperature (detector).
6. 155° C column temperature.

8.4.4 Injection. The first step in the analysis is the injection of the sample into the gas chromatograph. To eliminate difficulties arising from blowback or distillation within the syringe needle, one should employ the solvent flush injection technique. The 10-microliter syringe is first flushed with solvent several times to wet the barrel and plunger. Three microliters of solvent are drawn into the syringe to increase the accuracy and reproducibility of the injected sample volume. The needle is removed from the solvent, and the plunger is pulled back about 0.2 microliter to separate the solvent flush from the sample with a pocket of air to be used as a marker. The needle is then immersed in the sample, and a 5-microliter aliquot is withdrawn, taking into consideration the volume of the needle, since the sample in the needle will be completely injected. After the needle is removed from the sample and prior to injection, the plunger is pulled back 1.2 microliters to minimize evaporation of the sample from the tip of the needle. Observe that the sample occupies 4.9–5.0 microliters in the barrel of the syringe. Duplicate injections of each sample and standard should be made. No more than a 3 percent difference in area is to be expected. An automatic sample injector can be used if it is shown to give reproducibility at least as good as the solvent flush method.

8.4.5 Measurement of area. The area of the sample peak is measured by an electronic integrator or some other suitable form of area measurement, and preliminary results are read from a standard curve prepared as discussed below.

8.5 Determination of desorption efficiency.

8.5.1 Importance of determination. The desorption efficiency of a particular compound can vary from one laboratory to another and also from one batch of charcoal to another. Thus, it is necessary to determine at least once the percentage of the specific compound that is removed in the desorption process, provided the same batch of charcoal is used.

8.5.2 Procedure for determining desorption efficiency. Activated charcoal equivalent to the amount in the first section of the sampling tube (100 mg) is measured into a 2.5 in, 4-mm I.D. glass tube, flame sealed at one end. This charcoal must be from the same batch as that used in obtaining the samples and can be obtained from unused charcoal tubes. The open end is capped with Parafilm. A known amount of hexane solution of acrylonitrile containing 0.239 g/ml is injected directly into the activated charcoal with a microliter syringe, and tube is capped with more Parafilm. When using an automatic sample injector, the sample injector vials, capped with Teflon-faced septa, may be used in place of the glass tube.

The amount injected is equivalent to that present in a 20-liter air sample at the selected level.

Six tubes at each of three levels (0.5X, 1X, and 2X of the standard) are prepared in this manner and allowed to stand for at least overnight to assure complete adsorption of the analyte onto the charcoal. These tubes are referred to as the sample. A parallel blank tube should be treated in the same manner except that no sample is added to it. The sample and blank tubes are desorbed and analyzed in exactly the same manner as the sampling tube described in section 8.4.

Two or three standards are prepared by injecting the same volume of compound into 1.0 ml of methanol with the same syringe used in the preparation of the samples. These are analyzed with the samples.

The desorption efficiency (D.E.) equals the average weight in mg recovered from the tube divided by the weight in mg added to the tube, or

$$\text{D.E.} = \frac{\text{average weight recovered (mg)}}{\text{weight added (mg)}}$$

The desorption efficiency is dependent on the amount of analyte collected on the charcoal. Plot the desorption efficiency versus weight of analyte found. This curve is used in section 10.4 to correct for adsorption losses.

9. *Calibration and standards.*

It is convenient to express concentration of standards in terms of mg/1.0 ml methanol, because samples are desorbed in this amount of methanol. The density of the analyte is used to convert mg into microliters for easy measurement with a microliter syringe. A series of standards, varying in concentration over the range of interest, is prepared and analyzed under the same GC conditions and during the same time period as the unknown samples. Curves are established by plotting concentration in mg/1.0 ml versus peak area.

Note: Since no internal standard is used in the method, standard solutions must be analyzed at the same time that the sample analysis is done. This will minimize the effect of known day-to-day variations and variations during the same day of the FID response.

10. *Calculations.*

10.1 Read the weight, in mg, corresponding to each peak area from the standard curve. No volume corrections are needed, because the standard curve is based on mg/1.0 ml methanol and the volume of sample injected is identical to the volume of the standards injected.

10.2 Corrections for the bank must be made for each sample.

mg = mg sample − mg blank

Where:

mg sample = mg found in front section of sample tube.

mg sample = mg found in front section of blank tube.

A similar procedure is followed for the backup sections.

10.3 Add the weights found in the front and backup sections to get the total weight in the sample.

$$\text{Corrected mg/sample} = \frac{\text{Total weight}}{\text{D.E.}}$$

10.4 Read the desorption efficiency from the curve (see sec. 8.5.2) for the amount found in the front section. Divide the total weight by this desorption efficiency to obtain the corrected mg/sample.

10.5 The concentration of the analyte in the air sampled can be expressed in mg/cu m:

$$\text{mg/cu m} = \text{Corrected mg (section 10.4)} \times \frac{1{,}000 \text{ (liter/cu m)}}{\text{air volume sampled (liter)}}$$

10.6 Another method of expressing concentration is ppm.

ppm = m mg/cu × 24.45/M.W. × 760/P × T + 273/298

Where:

P = Pressure (mm Hg) of air sampled.

T = Temperature (°C) of air sampled.

24.45 = Molar volume (liter/mole) at 25°C and 760 mm Hg.

M.W. = Molecular weight (g/mole) of analyte.

760 = Standard pressure (mm Hg).

298 = Standard temperature (°K).

11. *References.*

11.1 White, L. D. et al., "A Convenient Optimized Method for the Analysis of Selected Solvent Vapors in the Industrial Atmosphere," *Amer. Ind. Hyg. Assoc. J.*, 31:225 (1970).

11.2 Documentation of NIOSH Validation Tests, NIOSH Contract No. CDC–99–74–45.

11.3 Final Report, NIOSH Contract HSM–99–71–31, "Personal Sampler Pump for Charcoal Tubes," September 15, 1972.

NIOSH Modification of NIOSH Method S–156

The NIOSH recommended method for low levels for acrylonitrile is a modification of method S–156. It differs in the following respects:

(1) Samples are desorbed using 1 ml of 1 percent acetone in CS_2 rather than methanol.

(2) The analytical column and conditions are:

Column: 20 percent SP–1000 on 80/100 Supelcoport 10 feet x ⅛ inch S.S.

Conditions:

Injector temperature: 200°C.

Detector temperature: 100° C.

Column temperature: 85° C.

Helium flow: 25 ml/min.

Air flow: 450 ml/min.

Hydrogen flow: 55 ml/min.

(3) A 2 µl injection of the desorbed analyte is used.

(4) A sampling rate of 100 ml/min is recommended.

OSHA Laboratory Modification of NIOSH Method S–156

Analyte: Acrylonitrile.

Matrix: Air.

Procedure: Adsorption on charcoal, desorption with methanol, GC.

1. *Principle of the Method* (Reference 1).

1.1 A known volume of air is drawn through a charcoal tube to trap the organic vapors present.

1.2 The charcoal in the tube is transferred to a small, stoppered sample vial, and the analyte is desorbed with methanol.

1.3 An aliquot of the desorbed sample is injected into a gas chromatograph.

1.4 The area of the resulting peak is determined and compared with areas obtained for standards.

2. *Advantages and disadvantages of the method.*

2.1 The sampling device is small, portable, and involves no liquids. Interferences are minimal, and most of those which do occur can be eliminated by altering chromatographic conditions. The tubes are analyzed by means of a quick, instrumental method.

2.2 This method may not be adequate for the simultaneous analysis of two or more substances.

2.3 The amount of sample which can be taken is limited by the number of milligrams that the tube will hold before overloading. When the sample value obtained for the backup section of the charcoal tube exceeds 25 percent of that found on the front section, the possibility of sample loss exists.

2.4 The precision of the method is limited by the reproducibility of the pressure drop across the tubes. This drop will affect the flow rate and cause the volume to be imprecise, because the pump is usually calibrated for one tube only.

3. *Apparatus.*

3.1 A calibrated personal sampling pump whose flow can be determined within ±5 percent at the recommended flow rate.

3.2 Charcoal tubes: Glass tube with both ends flame sealed, 7 cm long with a 6-mm O.D. and a 4-mm I.D., containing 2 sections of 20/40 mesh activated charcoal separated by a 2-mm portion of urethane foam. The activated charcoal is prepared from coconut shells and is fired at 600° C prior to packing. The adsorbing section contains 100 mg of charcoal, the back-up section 50 mg. A 3-mm portion of urethane foam is placed between the outlet end of the tube and the back-up section. A plug of sililated glass wool is placed in front of the adsorbing section. The pressure drop across the tube must be less than one inch of mercury at a flow rate of 1 liter per minute.

3.3 Gas chromatograph equipped with a nitrogen phosphorus detector.

3.4 Column (10-ft x 1/8"-in stainless steel) packed with 100/120 Supelcoport coated with 10 percent SP 1000.

3.5 An electronic integrator or some other suitable method for measuring peak area.

3.6 Two-milliliter sample vials with Teflon-lined caps

3.7 Microliter syringes: 10-microliter, and other convenient sizes for making standards.

3.8 Pipets: 1.0-ml delivery pipets.

3.9 Volumetric flasks: convenient sizes for making standard solutions.

4. *Reagents.*

4.1 Chromatographic quality methanol.

4.2 Acrylonitrile, reagent grade.

4.3 Filtered compressed air.

4.4 Purified hydrogen.

4.5 Purified helium.

5. *Procedure.*

5.1 Cleaning of equipment. All glassware used for the laboratory analysis should be properly cleaned and free of organics which could interfere in the analysis.

5.2 Calibration of personal pumps. Each pump must be calibrated with a representative charcoal tube in the line.

5.3 Collection and shipping of samples.

5.3.1 Immediately before sampling, break the ends of the tube to provide an opening at least one-half the internal diameter of the tube (2 mm).

5.3.2 The smaller section of the charcoal is used as the backup and should be placed nearest the sampling pump.

5.3.3 The charcoal should be placed in a vertical position during sampling to minimize channeling through the charcoal.

5.3.4 Air being sampled should not be passed through any hose or tubing before entering the charcoal tube.

5.3.5 A sample size of 20 liters is recommended. Sample at a flow rate of approximately 0.2 liters per minute. The flow rate should be known with an accuracy of at least ±5 percent.

5.3.6 The temperature and pressure of the atmosphere being sampled should be recorded.

5.3.7 The charcoal tubes should be capped with the supplied plastic caps immediately after sampling. Rubber caps should not be used.

5.3.8 Submit at least one blank tube (a charcoal tube subjected to the same handling procedures, without having any air drawn through it) with each set of samples.

5.3.9. Take necessary shipping and packing precautions to minimize breakage of samples.

5.4 Analysis of samples.

5.4.1 Preparation of samples. In preparation for analysis, each charcoal tube is scored with a file in front of the first section of charcoal and broken open. The glass wool is removed and discarded. The charcoal in the first (larger) section is transferred to a 2-ml vial. The separating section of foam is removed and discarded; the section is transferred to another capped vial. These two sections are analyzed separately.

5.4.2 Desorption of samples. Prior to analysis, 1.0 ml of methanol is pipetted into each sample container. Desorption should be done for 30 minutes in an ultrasonic bath. The sample vials are recapped as soon as the solvent is added.

5.4.3 GC conditions. The typical operating conditions for the gas chromatograph are:

1. 30 ml/min (60 psig) helium carrier gas flow.
2. 3.0 ml/min (30 psig) hydrogen gas flow to detector.
3. 50 ml/min (60 psig) air flow to detector.
4. 200° C injector temperature.
5. 200° C dejector temperature.
6. 100° C column temperature.

5.4.4 Injection. Solvent flush technique or equivalent.

5.4.5 Measurement of area. The area of the sample peak is measured by an electronic integator or some other suitable form of area measurement, and preliminary results are read from a standard curve prepared as discussed below.

5.5 Determination of desorption efficiency.

5.5.1 Importance of determination. The desorption efficiency of a particular compound can vary from one laboratory to another and also from one batch of charcoal to another. Thus, it is necessary to determine, at least once, the percentage of the specific compound that is removed in the desorption process, provided the same batch of charcoal is used.

5.5.2 Procedure for determining desorption efficiency. The reference portion of the charcoal tube is removed. To the remaining portion, amounts representing 0.5X, 1X, and 2X (X represents TLV) based on a 20 l air sample are injected onto several tubes at each level. Dilutions of acrylonitrile with methanol are made to allow injection of measurable quantities. These tubes are then allowed to equilibrate at least overnight. Following equilibration they are analyzed following the same procedure as the samples A curve of the desorption efficiency

amt recovered/amt added

is plotted versus amount of analyte found. This curve is used to correct for adsorption losses.

6. *Calibration and standards.*

A series of standards, varying in concentration over the range of interest, is prepared and analyzed under the same GC conditions and during the same time period as the unknown samples. Curves are prepared by plotting concentration versus peak area.

Note: Since no internal standard is used in the method, standard solutions must be analyzed at the same time that the sample analysis is done. This will minimize the effect of known day-to-day variations and variations during the same day of the NPD response. Multiple injections are necessary.

7. *Calculations.*

Read the weight, corresponding to each peak area from the standard curve, correct for the blank, correct for the desorption efficiency, and make necessary air volume corrections.

8. *Reference.* NIOSH Method S–156.

§ 1926.1147 Ethylene oxide.

(a) *Scope and application.* (1) This section applies to all occupational exposures to ethylene oxide (EtO), Chemical Abstracts Service Registry No. 75–21–8, except as provided in paragraph (a)(2) of this section.

(2) This section does not apply to the processing, use, or handling of products containing EtO where objective data are reasonably relied upon that demonstrate that the product is not capable of releasing EtO in airborne concentrations at or above the action level, and may not reasonably be foreseen to release EtO in excess of the excursion limit, under the expected conditions of processing, use, or handling that will cause the greatest possible release.

(3) Where products containing EtO are exempted under paragraph (a)(2) of this section, the employer shall maintain records of the objective data supporting that exemption and the basis for the employer's reliance on the data, as provided in paragraph (k)(1) of this section.

(b) *Definitions:* For the purpose of this section, the following definitions shall apply:

Action level means a concentration of airborne EtO of 0.5 ppm calculated as an eight (8)-hour time-weighted average.

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

Authorized person means any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures under paragraph (l) of this section, or any other person authorized by the Act or regulations issued under the Act.

Director means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

Emergency means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that is likely to or does result in an unexpected significant release of EtO.

Employee exposure means exposure to airborne EtO which would occur if the employee were not using respiratory protective equipment.

Ethylene oxide or *EtO* means the three-membered ring organic compound with chemical formula C_2H_4O.

(c) *Permissible exposure limits*—(1) *8-hour time weighted average (TWA).* The employer shall ensure that no employee is exposed to an airborne concentration of EtO in excess of one (1) part EtO per million parts of air (1 ppm) as an 8-hour time-weighted average (8-hour TWA).

(2) *Excursion limit.* The employer shall ensure that no employee is exposed to an airborne concentration of EtO in excess of 5 parts of EtO per million parts of air (5 ppm) as averaged over a sampling period of fifteen (15) minutes.

(d) *Exposure monitoring*—(1) *General.* (i) Determinations of employee exposure shall be made from breathing zone air samples that are representative of the 8-hour TWA and 15-minute short-term exposures of each employee.

(ii) Representative 8-hour TWA employee exposure shall be determined on the basis of one or more samples representing full-shift exposure for each shift for each job classification in each work area. Representative 15-minute short-term employee exposures shall be determined on the basis of one or more samples representing 15-minute exposures associated with operations that are most likely to produce exposures above the excursion limit for each shift for each job classification in each work area.

(iii) Where the employer can document that exposure levels are equivalent for similar operations in different work shifts, the employer need only determine representative employee

exposure for that operation during one shift.

(2) *Initial monitoring.* (i) Each employer who has a workplace or work operation covered by this standard, except as provided for in paragraph (a)(2) or (d)(2)(ii) of this section, shall perform initial monitoring to determine accurately the airborne concentrations of EtO to which employees may be exposed.

(ii) Where the employer has monitored after June 15, 1983 and the monitoring satisfies all other requirements of this section, the employer may rely on such earlier monitoring results to satisfy the requirements of paragraph (d)(2)(i) of this section.

(iii) Where the employer has previously monitored for the excursion limit and the monitoring satisfies all other requirements of this sections, the employer may rely on such earlier monitoring results to satisfy the requirements of paragraph (d)(2)(i) of this section.

(3) *Monitoring frequency (periodic monitoring).* (i) If the monitoring required by paragraph (d)(2) of this section reveals employee exposure at or above the action level but at or below the 8-hour TWA, the employer shall repeat such monitoring for each such employee at least every 6 months.

(ii) If the monitoring required by paragraph (d)(2)(i) of this section reveals employee exposure above the 8-hour TWA, the employer shall repeat such monitoring for each such employee at least every 3 months.

(iii) The employer may alter the monitoring schedule from quarterly to semiannually for any employee for whom two consecutive measurements taken at least 7 days apart indicate that the employee's exposure has decreased to or below the 8-hour TWA.

(iv) If the monitoring required by paragraph (d)(2)(i) of this section reveals employee exposure above the 15 minute excursion limit, the employer shall repeat such monitoring for each such employee at least every 3 months, and more often as necessary to evaluate exposure the employee's short-term exposures.

(4) *Termination of monitoring.* (i) If the initial monitoring required by paragraph (d)(2)(i) of this section reveals employee exposure to be below the action level, the employer may discontinue TWA monitoring for those employees whose exposures are represented by the initial monitoring.

(ii) If the periodic monitoring required by paragraph (d)(3) of this section reveals that employee exposures, as indicated by at least two consecutive measurements taken at least 7 days apart, are below the action level, the employer may discontinue TWA monitoring for those employees whose exposures are represented by such monitoring.

(iii) If the initial monitoring required by paragraph (d)(2)(1) of this section reveals employee exposure to be at or below the excursion limit, the employer may discontinue excursion limit monitoring for those employees whose exposures are represented by the initial monitoring.

(iv) If the periodic monitoring required by paragraph (d)(3) of this section reveals that employee exposures, as indicated by at least two consecutive measurements taken at least 7 days apart, are at or below the excursion limit, the employer may discontinue excursion limit monitoring for those employees whose exposures are represented by such monitoring.

(5) *Additional monitoring.* Notwithstanding the provisions of paragraph (d)(4) of this section, the employer shall institute the exposure monitoring required under paragraphs (d)(2)(i) and (d)(3) of this section whenever there has been a change in the production, process, control equipment, personnel or work practices that may result in new or additional exposures to EtO or when the employer has any reason to suspect that a change may result in new or additional exposures.

(6) *Accuracy of monitoring.* (i) Monitoring shall be accurate, to a confidence level of 95 percent, to within plus or minus 25 percent for airborne concentrations of EtO at the 1 ppm TWA and to within plus or minus 35 percent for airborne concentrations of EtO at the action level of 0.5 ppm.

(ii) Monitoring shall be accurate, to a confidence level of 95 percent, to within plus or minus 35 percent for airborne concentrations of EtO at the excursion limit.

(7) *Employee notification of monitoring results.* (i) The employer shall, within 15 working days after the receipt of the results of any monitoring performed under this standard, notify the affected employee of these results in writing either individually or by posting of results in an appropriate location that is accessible to affected employees.

(ii) The written notification required by paragraph (d)(7)(i) of this section shall contain the corrective action being taken by the employer to reduce employee exposure to or below the TWA and/or excursion limit, wherever monitoring results indicated that the TWA and/or excursion limit has been exceeded.

(e) *Regulated areas.* (1) The employer shall establish a regulated area wherever occupational exposure to airborne concentrations of EtO may exceed the TWA or wherever the EtO concentration exceeds or can reasonably be expected to exceed the excursion limit.

(2) Access to regulated areas shall be limited to authorized persons.

(3) Regulated areas shall be demarcated in any manner that minimizes the number of employees within the regulated area.

(f) *Methods of compliance*—(1) *Engineering controls and work practices.* (i) The employer shall institute engineering controls and work practices to reduce and maintain employee exposure to or below the TWA and to or below the excursion limit, except to the extent that such controls are not feasible.

(ii) Wherever the feasible engineering controls and work practices that can be instituted are not sufficient to reduce employee exposure to or below the TWA and to or below the excursion limit, the employer shall use them to reduce employee exposure to the lowest levels achievable by these controls and shall supplement them by the use of respiratory protection that complies with the requirements of paragraph (g) of this section.

(iii) Engineering controls are generally infeasible for the following operations: collection of quality assurance sampling from sterilized materials removal of biological indicators from sterilized materials: loading and unloading of tank cars; changing of ethylene oxide tanks on sterilizers; and vessel cleaning. For these operations, engineering controls are required only where the Assistant Secretary demonstrates that such controls are feasible.

(2) *Compliance program.* (i) Where the TWA or excursion limit is exceeded, the employer shall establish and implement a written program to reduce exposure to or below the TWA and to or below the excursion limit by means of engineering and work practice controls, as required by paragraph (f)(1) of this section, and by the use of respiratory protection where required or permitted under this section.

(ii) The compliance program shall include a schedule for periodic leak detection surveys and a written plan for emergency situations, as specified in paragraph (h)(i) of this section.

(iii) Written plans for a program required in paragraph (f)(2) shall be developed and furnished upon request for examination and copying to the Assistant Secretary, the Director, affected employees and designated employee representatives. Such plans

shall be reviewed at least every 12 months, and shall be updated as necessary to reflect significant changes in the status of the employer's compliance program.

(iv) The employer shall not implement a schedule of employee rotation as a means of compliance with the TWA or excursion limit.

(g) *Respiratory protection and personal protective equipment*—(1) *General.* The employer shall provide respirators, and ensure that they are used, where required by this section. Respirators shall be used in the following circumstances.

(i) During the interval necessary to install or implement feasible engineering and work practice controls;

(ii) In work operations, such as maintenance and repair activities, vessel cleaning, or other activities for which engineering and work practice controls are not feasible;

(iii) In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the TWA or excursion limit; and

(iv) In emergencies.

(2) *Respirator selection.* (i) Where respirators are required under this section, the employer shall select and provide, at no cost to the employee, the appropriate respirator as specified in Table 1, and shall ensure that the employee uses the respirator provided.

(ii) The employer shall select respirators from among those jointly approved as being acceptable for protection against EtO by the Mine Safety and Health Administration (MSHA) and by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR Part 11.

(3) *Respirator program.* Where respiratory protection is required by this section, the employer shall institute a respirator program in accordance with 29 CFR 1926.103 (e), (g), (h), and (i).

(4) *Protective clothing and equipment.* Where eye or skin contact with liquid EtO or EtO solutions may occur, the employer shall select and provide, at no cost to the employee, appropriate protective clothing or other equipment in accordance with 29 CFR 1926.95 and 1926.102 to protect any area of the body that may come in contact with liquid EtO or EtO in solution, and shall ensure that the employee wears the protective clothing and equipment provided.

(h) *Emergency situations*—(1) *Written plan.* (i) A written plan for emergency situations shall be developed for each workplace where there is a possibility of an emergency. Appropriate portions of the plan shall be implemented in the event of an emergency.

(ii) The plan shall specifically provide that employees engaged in correcting emergency conditions shall be equipped with respiratory protection as required by paragraph (g) of this section until the emergency is abated.

(iii) The plan shall include the elements prescribed in 29 CFR 1926.35, "Employee emergency plans and fire prevention plans."

(2) *Alerting employees.* Where there is the possibility of employee exposure to EtO due to an emergency, means shall be developed to alert potentially affected employees of such occurrences promptly. Affected employees shall be immediately evacuated from the area in the event that an emergency occurs.

TABLE 1—MINIMUM REQUIREMENTS FOR RESPIRATORY PROTECTION FOR AIRBORNE ETO

Condition of use or concentration of airborne EtO (ppm)	Minimum required respirator
Equal to or less than 50.	(a) Full facepiece respirator with EtO approved canister, front-or back-mounted.
Equal to or less than 2,000.	(a) Positive-pressure supplied air respirator, equipped with full facepiece, hood, or helmet, or (b) Continuous-flow supplied air respirator (positive pressure) equipped with hood, helmet or suit.
Concentration above 2,000 or unknown concentration (such as in emergencies).	(a) Positive-pressure self-contained breathing apparatus (SCBA), equipped with full facepiece, or (b) Positive-pressure full facepiece supplied air respirator equipped with an auxiliary positive-pressure self-contained breathing apparatus.
Firefighting	(a) Positive pressure self-contained breathing apparatus equipped with full facepiece.
Escape	(a) Any respirator described above.

Note.—Respirators approved for use in higher concentrations are permitted to be used in lower concentrations.

(i) *Medical surveillance*—(1) *General*—(i) *Employees covered.* (A) The employer shall institute a medical surveillance program for all employees who are or may be exposed to EtO at or above the action level, without regard to the use of respirators, for at least 30 days a year.

(B) The employer shall make available medical examinations and consultations to all employees who have been exposed to EtO in an emergency situation.

(ii) *Examination by a physician.* The employer shall ensure that all medical examinations and procedures are performed by or under the supervision of a licensed physician, and are provided without cost to the employee, without loss of pay, and at a reasonable time and place.

(2) *Medical examinations and consultations.* (i) Frequency. The employer shall make available medical examinations and consultations to each employee covered under paragraph (i)(1)(i) of this section on the following schedules:

(A) Prior to assignment of the employee to an area where exposure may be at or above the action level for at least 30 days a year.

(B) At least annually each employee exposed at or above the action level for at least 30 days in the past year.

(C) At termination of employment or reassignment to an area where exposure to EtO is not at or above the action level for at least 30 days a year.

(D) As medically appropriate for any employee exposed during an emergency.

(E) As soon as possible, upon notification by an employee either (1) that the employee has developed signs or symptoms indicating possible overexposure to EtO, or (2) that the employee desires medical advice concerning the effects of current or past exposure to EtO on the employee's ability to produce a healthy child.

(F) If the examining physician determines that any of the examinations should be provided more frequently than specified, the employer shall provide such examinations to affected employees at the frequencies recommended by the physician.

(ii) *Content.* (A) Medical examinations made available pursuant to paragraphs (i)(2)(i)(A)–(D) of this section shall include:

(*1*) A medical and work history with special emphasis directed to symptoms related to the pulmonary, hematologic, neurologic, and reproductive systems and to the eyes and skin.

(*2*) A physical examination with particular emphasis given to the pulmonary, hematologic, neurologic, and reproductive systems and to the eyes and skin.

(*3*) A complete blood count to include at least a white cell count (including

differential cell count), red cell count, hematocrit, and hemoglobin.

(4) Any laboratory or other test which the examining physician deems necessary by sound medical practice.

(B) The content of medical examinations or consultation made available pursuant to paragraph (i)(2)(i)(E) of this section shall be determined by the examining physician, and shall include pregnancy testing or laboratory evaluation of fertility, if requested by the employee and deemed appropriate by the physician.

(3) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this standard and Appendices A, B, and C.

(ii) A description of the affected employee's duties as they relate to the employee's exposure.

(iii) The employee's representative exposure level or anticipated exposure level.

(iv) A description of any personal protective and respiratory equipment used or to be used.

(v) Information from previous medical examinations of the affected employee that is not otherwise available to the examining physician.

(4) *Physician's written opinion.* (i) The employer shall obtain a written opinion from the examining physician. This written opinion shall contain the results of the medical examination and shall include:

(A) The physician's opinion as to whether the employee has any detected medical conditions that would place the employee at an increased risk of material health impairment from exposure to EtO;

(B) Any recommended limitations on the employee or upon the use of personal protective equipment such as clothing or respirators; and

(C) A statement that the employee has been informed by the physician of the results of the medical examination and of any medical conditions resulting from EtO exposure that require further explanation or treatment.

(ii) The employer shall instruct the physician not to reveal in the written opinion given to the employer specific findings or diagnoses unrelated to occupational exposure to EtO.

(iii) The employer shall provide a copy of the physician's written opinion to the affected employee within 15 days from its receipt.

(j) *Communication of EtO hazards to employees*—(1) *Signs and labels.* (i) The employer shall post and maintain legible signs demarcating regulated areas and entrances or accessways to regulated areas that bear the following legend:

DANGER
ETHYLENE OXIDE
CANCER HAZARD AND REPRODUCTIVE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING
MAY BE REQUIRED
TO BE WORN IN THIS AREA

(ii) The employer shall ensure that precautionary labels are affixed to all containers of EtO whose contents are capable of causing employee exposure at or above the action level or whose contents may reasonably be foreseen to cause employee exposure above the excursion limit, and that the labels remain affixed when the containers of EtO leave the workplace. For the purpose of this paragraph, reaction vessels, storage tanks, and pipes or piping systems are not considered to be containers. The labels shall comply with the requirements of 29 CFR 1926.59(f) of OSHA's Hazard Communication standard, and shall include the following legend:

(A) DANGER
CONTAINS ETHYLENE OXIDE
CANCER HAZARD AND REPRODUCTIVE HAZARD

and

(B) A warning statement against breathing airborne concentrations of EtO.

(iii) The labeling requirements under this section do not apply where EtO is used as a pesticide, as such term is defined in the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.), when it is labeled pursuant to that Act and regulations issued under that Act by the Environmental Protection Agency.

(2) *Material safety data sheets.* Employers who are manufacturers or importers of EtO shall comply with the requirements regarding development of material safety data sheets as specified in 29 CFR 1926.59(g) of OSHA's Hazard Communication standard.

(3) *Information and training.* (i) The employer shall provide employees who are potentially exposed to EtO at or above the action level or above the excursion limit with information and training on EtO at the time of initial assignment and at least annually thereafter.

(ii) Employees shall be informed of the following:

(A) The requirements of this section with an explanation of its contents, including Appendices A and B;

(B) Any operations in their work area where EtO is present;

(C) The location and availability of the written EtO final rule; and

(D) The medical surveillance program required by paragraph (i) of this section with an explanation of the information in Appendix C.

(iii) Employee training shall include at least:

(A) Methods and observations that may be used to detect the presence or release of EtO in the work area (such as monitoring conducted by the employer, continuous monitoring devices, etc.);

(B) The physical and health hazards of EtO;

(C) The measures employees can take to protect themselves from hazards associated with EtO exposure, including specific procedures the employer has implemented to protect employees from exposure to EtO, such as work practices, emergency procedures, and personal protective equipment to be used; and

(D) The details of the hazard communication program developed by the employer, including an explanation of the labeling system and how employees can obtain and use the appropriate hazard information.

(k) *Recordkeeping*—(1) *Objective data for exempted operations.* (i) Where the processing, use, or handling of products made from or containing EtO are exempted from other requirements of this section under paragraph (a)(2) of this section, or where objective data have been relied on in lieu of initial monitoring under paragraph (d)(2)(ii) of this section, the employer shall establish and maintain an accurate record of objective data reasonably relied upon in support of the exemption.

(ii) This record shall include at least the following information:

(A) The product qualifying for exemption;

(B) The source of the objective data;

(C) The testing protocol, results of testing, and/or analysis of the material for the release of EtO;

(D) A description of the operation exempted and how the data support the exemption; and

(E) Other data relevant to the operations, materials, processing, or employee exposures covered by the exemption.

(iii) The employer shall maintain this record for the duration of the employer's reliance upon such objective data.

(2) *Exposure measurements.* (i) The employer shall keep an accurate record of all measurements taken to monitor employee exposure to EtO as prescribed in paragraph (d) of this section.

(ii) This record shall include at least the following information:

(A) The date of measurement;

(B) The operation involving exposu to EtO which is being monitored;

(C) Sampling and analytical methods used and evidence of their accuracy;

(D) Number, duration, and results of samples taken;

(E) Type of protective devices worn, if any; and

(F) Name, social security number and exposure of the employees whose exposures are represented.

(iii) The employer shall maintain this record for at least thirty (30) years, in accordance with 29 CFR 1926.33.

(3) *Medical surveillance.* (i) The employer shall establish and maintain an accurate record for each employee subject to medical surveillance by paragraph (i)(1)(i) of this section, in accordance with 29 CFR 1926.33.

(ii) The record shall include at least the following information:

(A) The name and social security number of the employee;

(B) Physicians' written opinions;

(C) Any employee medical complaints related to exposure to EtO; and

(D) A copy of the information provided to the physician as required by paragraph (i)(3) of this section.

(iii) The employer shall ensure that this record is maintained for the duration of employment plus thirty (30) years, in accordance with 29 CFR 1926.33.

(4) *Availability.* (i) The employer, upon written request, shall make all records required to be maintained by this section available to the Assistant Secretary and the Director for examination and copying.

(ii) The employer, upon request, shall make any exemption and exposure records required by paragraphs (k) (1) and (2) of this section available for examination and copying to affected employees, former employees, designated representatives and the Assistant Secretary, in accordance with 29 CFR 1926.33 (a) through (e) and (g) through (i).

(iii) The employer, upon request, shall make employee medical records required by paragraph (k)(3) of this section available for examination and copying to the subject employee, anyone having the specific written consent of the subject employee, and the Assistant Secretary, in accordance with 29 CFR 1926.33.

(5) *Transfer of records.* (i) The employer shall comply with the requirements concerning transfer of records set forth in 29 CFR 1926.33(h).

(ii) Whenever the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall notify the Director at least 90 days prior to disposal and transmit them to the Director.

(l) *Observation of monitoring*—(1) *Employee observation.* The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to EtO conducted in accordance with paragraph (d) of this section.

(2) *Observation procedures.* When observation of the monitoring of employee exposure to EtO requires entry into an area where the use of protective clothing or equipment is required, the observer shall be provided with and be required to use such clothing and equipment and shall comply with all other applicable safety and health procedures.

(m) *Dates*—(1) *(i) Effective date.* The paragraphs contained in this section shall become effective August 21, 1984, except for paragraphs (a)(2), (d), (e), (f)(2), (g)(3), (h), (i), and (j) which shall become effective on March 12, 1985.

(ii) The requirements in this section which pertain only to or are triggered by the excursion limit shall become effective June 6, 1988, except for the excursion limit provisions in paragraphs (a)(2), (d), (f)(2), (g)(3) and (j) of this section which shall become effective August 25, 1988.

(2) *Start-up dates.* (i) The start-up date for the requirements in those paragraphs that were effective on August 21, 1984, including institution of work practice controls specified in paragraph (f)(1), shall be February 19, 1985, except as provided for in paragraph (m)(2)(ii), and the start-up date for paragraphs (a)(2), (d), (e), (f)(2), (g)(3), (h), (i), and (j) of this section shall be September 9, 1985.

(ii) Engineering controls specified by paragraph (f)(1) of this section shall be implemented by August 21, 1985.

(iii) Compliance with the requirements in this section which pertain only to or are triggered by the excursion limit shall be by September 6, 1988, except for compliance with the excursion limit provisions of paragraphs (a)(2), (d), (f)(2), (g)(3), and (j) of this section, which shall be by October 6, 1988, and implementation of engineering controls specified for compliance with the excursion limit, which shall be by December 6, 1988.

(3) *Labeling.* (i) Paragraph (j)(1)(ii)(A) of this section as amended is effective January 9, 1986.

(ii) Paragraph (j)(1)(iii) of this is effective October 11, 1985.

(n) *Appendices.* The information contained in the appendices is not intended by itself to create any additional obligations not otherwise imposed or to detract from any existing obligation.

(Approved by the Office of Management and Budget under control number 1218–0108)

Appendix A to § 1926.1147—Substance Safety Data Sheet for Ethylene Oxide (Non-Mandatory)

I. Substance identification

A. Substance: Ethylene oxide (C_2H_4O).

B. Synonyms: dihydrooxirene, dimethylene oxide, EO, 1,2-epoxyethane, EtO, ETO, oxacyclopropane, oxane, oxidoethane, alpha/beta-oxidoethane, oxiran, oxirane.

C. Ethylene oxide can be found as a liquid or vapor.

D. EtO is used in the manufacture of ethylene glycol, surfactants, ethanolamines, glycol ethers, and other organic chemicals. EtO is also used as a sterilant and fumigant.

E. Appearance and odor: Colorless liquid below 10.7 °C (51.3 °F) or colorless gas with ether-like odor detected at approximately 700 parts EtO per million parts of air (700 ppm).

F. Permissible Exposure: Exposure may not exceed 1 part EtO per million parts of air averaged over the 8-hour workday.

II. Health hazard data

A. Ethylene oxide can cause bodily harm if you inhale the vapor, if it comes into contact with your eyes or skin, or if you swallow it.

B. Effects of overexposure:

1. Ethylene oxide in liquid form can cause eye irritation and injury to the cornea, frostbite, and severe irritation and blistering of the skin upon prolonged or confined contact. Ingestion of EtO can cause gastric irritation and liver injury. Acute effects from inhalation of EtO vapors include respiratory irritation and lung injury, headache, nausea, vomiting, diarrhea, shortness of breath, and cyanosis (blue or purple coloring of skin). Exposure has also been associated with the occurrence of cancer, reproductive effects, mutagenic changes, neurotoxicity, and sensitization.

1. EtO has been shown to cause cancer in laboratory animals and has been associated with higher incidences of cancer in humans. Adverse reproductive effects and chromosome damage may also occur from EtO exposure.

a. Reporting signs and symptoms: You should inform your employer if you develop any signs or symptoms and suspect that they are caused by exposure to EtO.

III. Emergency first aid procedures

A. Eye exposure: If EtO gets into your eyes, wash your eyes immediately with large amounts of water, lifting the lower and upper eyelids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical.

B. Skin exposure: If EtO gets on your skin, immediately wash the contaminated skin with water. If EtO soaks through your clothing, especially your shoes, remove the clothing immediately and wash the skin with water using an emergency deluge shower. Get medical attention immediately. Thoroughly wash contaminated clothing before reusing. Contaminated leather shoes or other leather articles should not be reused and should be discarded.

C. Inhalation: If large amounts of EtO are inhaled, the exposed person must be moved to fresh air at once. If breathing has stopped, perform cardiopulmonary resuscitation. Keep the affected person warm and at rest. Get medical attention immediately.

D. Swallowing: When EtO has been swallowed, give the person large quantities of water immediately. After the water has been swallowed, try to get the person to vomit by having him or her touch the back of the throat with his or her finger. Do not make an unconscious person vomit. Get medical attention immediately.

E. Rescue: Move the affected person from the hazardous exposure. If the exposed person has been overcome, attempt rescue only after notifying at least one other person of the emergency and putting into effect established emergency procedures. Do not become a casualty yourself. Understand your emergency rescue procedures and know the location of the emergency equipment before the need arises.

IV. Respirators and protective clothing

A. Respirators: You may be required to wear a respirator for nonroutine activities, in emergencies, while your employer is in the process of reducing EtO exposures through engineering controls, and where engineering controls are not feasible. As of the effective date of the standard, only air supplied positive-pressure, full-facepiece respirators are approved for protection against EtO. If air-purifying respirators are worn in the future, they must have a joint Mine Safety and Health Administration (MSHA) and National Institute for Occupational Safety and Health (NIOSH) label of approval for use with ethylene oxide. For effective protection, respirators must fit your face and head snugly. Respirators should not be loosened or removed in work situations where their use is required.

EtO does not have a detectable odor except at levels well above the permissible exposure limits. If you can smell EtO while wearing a respirator, proceed immediately to fresh air. If you experience difficulty breathing while wearing a respirator, tell your employer.

B. Protective clothing: You may be required to wear impermeable clothing, gloves, a face shield, or other appropriate protective clothing to prevent skin contact with liquid EtO or EtO-containing solutions. Where protective clothing is required, your employer must provide clean garments to you as necessary to assure that the clothing protects you adequately.

Replace or repair protective clothing that has become torn or otherwise damaged.

EtO must never be allowed to remain on the skin. Clothing and shoes which are not impermeable to EtO should not be allowed to become contaminated with EtO, and if they do, the clothing should be promptly removed and decontaminated. Contaminated leather shoes should be discarded. Once EtO penetrates shoes or other leather articles, they should not be worn again.

C. Eye protection: You must wear splashproof safety goggles in areas where liquid EtO or EtO-containing solutions may contact your eyes. In addition, contact lenses should not be worn in areas where eye contact with EtO can occur.

V. Precautions for safe use, handling, and storage

A. EtO is a flammable liquid, and its vapors can easily form explosive mixtures in air.

B. EtO must be stored in tighly closed containers in a cool, well-ventilated area, away from heat, sparks, flames, strong oxidizers, alkalines, and acids, strong bases, acetylide-forming metals such as cooper, silver, mercury and their alloys.

C. Sources of ignition such as smoking material, open flames and some electrical devices are prohibited wherever EtO is handled, used, or stored in a manner that could create a potential fire or explosion hazard.

D. You should use non-sparking tools when opening or closing metal containers of EtO, and containers must be bonded and grounded in the rare instances in which liquid EtO is poured or transferred.

E. Impermeable clothing wet with liquid EtO or EtO-containing solutions may be easily ignited. If your are wearing impermeable clothing and are splashed with liquid EtO or EtO-containing solution, you should immediately remove the clothing while under an emergency deluge shower.

F. If your skin comes into contact with liquid EtO or EtO-containing solutions, you should immediately remove the EtO using an emergency deluge shower.

G. You should not keep food, beverages, or smoking materials in regulated areas where employee exposures are above the permissible exposure limits.

H. Fire extinguishers and emergency deluge showers for quick drenching should be readily available, and you should know where they are and how to operate them.

I. Ask your supervisor where EtO is used in your work area and for any additional plant safety and health rules.

VI. Access to information

A. Each year, your employer is required to inform you of the information contained in this standard and appendices for EtO. In addition, your employer must instruct you in the proper work practices for using EtO emergency procedures, and the correct use of protective equipment.

B. Your employer is required to determine whether you are being exposed to EtO. You or your representative has the right to observe employee measurements and to record the results obtained. Your employer is required to inform you of your exposure. If your employer determine that you are being overexposed, he or she is required to inform you of the actions which are being taken to reduce your exposure to within permissible exposure limits.

C. Your employer is required to keep records of your exposures and medical examinations. These exposure records must be kept by the employer for at least thirty (30) years. Medical records must be kept for the period of your employment plus thirty (30) years.

D. Your employer is required to release your exposure and medical records to your physician or designated representative upon your written request.

VII. Sterilant use of eto in hospitals and health care facilities

This section of Appendix A, for informational purposes, sets forth EPA's recommendations for modifications in workplace design and practice in hospitals and health care facilities for which the Environmental Protection Agency has registered EtO for uses as a sterilant or fumigant under the Federal Insecticide, Funigicide, and Rodenticide Act, 7 U.S.C. 136 *et seq*. These new recommendations, published in the **Federal Register** by EPA at 49 FR 15268, as modified in today's **Register**, are intended to help reduce the exposure of hospital and health care workers to EtO to 1 ppm. EPA's recommended workplace design and workplace practice are as follows:

1. Workplace Design

a. *Installation of gas line hand valves.* Hand valves must be installed on the gas supply line at the connection to the supply cylinders to minimize leakage during cylinder change.

b. *Installation of capture boxes.* Sterilizer operations result in a gas/water discharge at the completion of the process. This discharge is routinely piped to a floor drain which is generally located in an equipment or an adjacent room. When the floor drain is not in the same room as the sterilizer and workers are not normally present, all that is necessary is that the room be well ventilated.

The installation of a "capture box" will be required for those work place layouts where the floor drain is located in the same room as the sterilizer or in a room where workers are normally present. A "capture box" is a piece of equipment that totally encloses the floor drain where the discharge from the sterilizer is pumped. The "capture box" is to be vented directly to a non-recirculating or dedicated ventilation system. Sufficient air intake should be allowed at the bottom of the box to handle the volume of air that is ventilated from the top of the box. The "capture box" can be made of metal, plastic, wood or other equivalent material. The box is intended to reduce levels of EtO discharged into the work room atmosphere. The use of a "capture box" is not required if: (1) The vacuum pump discharge floor drain is located in a well ventilated equipment or other room where workers are not normally present or (2) the water sealed vacuum pump discharges directly to a closed sealed sewer line (check local plumbing codes).

If it is impractical to install a vented "capture box" and a well ventilated equipment or other room is not feasible, a box that can be sealed over the floor drain may be used if: (1) The floor drain is located in a room where workers are not normally present and EtO cannot leak into an occupied area, and (2) the sterilizer in use is less than 12 cubic feet in capacity (check local plumbing codes).

c. *Ventilation of aeration units* i. *Existing aeration units.* Existing units must be vented to a non-recirculating or dedicated system or vented to an equipment or other room where workers are not normally present and which is well ventilated. Aerator units must be positioned as close as possible to the

sterilizer to minimize the exposure from the off-gassing of sterilized items.

ii. *Installation of new aerator units (where none exist).* New aerator units must be vented as described above for existing aerators. Aerators must be in place by July 1, 1986.

d. *Ventilation during cylinder change.* Workers may be exposed to short but relatively high levels of EtO during the change of gas cylinders. To reduce exposure from this route, users must select one of three alternatives designed to draw off gas that may be released when the line from the sterilizer to the cylinder is disconnected:

i. Location of cylinders in a well ventilated equipment room or other room where workers are not normally present.

ii. Installation of a flexible hose (at least 4" (10.16 cm) in diameter) to a non-recirculating or dedicated ventilation system and located in the area of cylinder change in such a way that the hose can be positioned at the point where the sterilizer gas line is disconnected from the cylinder.

iii. Installation of a hood that is part of a non-recirculating or dedicated system and positioned no more than one foot above the point where the change of cylinders takes place.

e. *Ventilation of sterilizer door area.* One of the major sources of exposure to EtO occurs when the sterilizer door is opened following the completion of the sterilization process. In order to reduce this avenue of exposure, a hood or metal canopy closed on each end must be installed over the sterilizer door. The hood or metal canopy must be connected to a non-recirculating or dedicated ventilation system or one that exhausts gases to a well ventilated equipment or other room where workers are not normally present. A hood or canopy over the sterilizer door is required for use even with those sterilizers that have a purge cycle and must be in place by July 1, 1986.

f. *Ventilation of sterilizer relief valve.* Sterilizers are typically equipped with a safety relief device to release gas in case of increased pressure in the sterilizer. Generally, such relief devices are used on pressure vessels. Although these pressure relief devices are rarely opened for hospital and health care sterilizers, it is suggested that they be designed to exhaust vapor from the sterilizer by one of the following methods:

i. Through a pipe connected to the outlet of the relief valve ventilated directly outdoors at a point high enough to be away from passers by, and not near any windows that open, or near any air conditioning or ventilation air intakes.

ii. Through a connection to an existing or new non-recirculating or dedicated ventilation system.

iii. Through a connection to a well ventilated equipment or other room where workers are not normally present.

g. *Ventilation systems.* Each hospital and health care facility affected by this notice that uses EtO for the sterilization of equipment and supplies must have a ventilation system which enables compliance with the requirements of section (b) through (f) in the manner described in these sections and within the timeframes allowed. Thus, each affected hospital and health care facility must have or install a non-recirculating or dedicated ventilation equipment or other room where workers are not normally present in which to vent EtO.

h. *Installation of alarm systems.* An audible and visual indicator alarm system must be installed to alert personnel of ventilation system failures, i.e., when the ventilation fan motor is not working.

2. Workplace Practices

All the workplace practices discussed in this unit must be permanently posted near the door of each sterilizer prior to use by any operator.

a. *Changing of supply line filters.* Filters in the sterilizer liquid line must be changed when necessary, by the following procedure:

i. Close the cylinder valve and the hose valve.

ii. Disconnect the cylinder hose (piping) from the cylinder.

iii. Open the hose valve and bleed slowly into a proper ventilating system at or near the in-use supply cylinders.

iv. Vacate the area until the line is empty.

v. Change the filter.

vi. Reconnect the lines and reverse the value position.

vii. Check hoses, filters, and valves for leaks with a fluorocarbon leak detector (for those sterilizers using the 88 percent chlorofluorocarbon, 12 percent ethylene oxide mixture (12/88)).

b. *Restricted access area.* i. Areas involving use of EtO must be designated as restricted access areas. They must be identified with signs or floor marks near the sterilizer door, aerator, vacuum pump floor drain discharge, and in-use cylinder storage.

ii. All personnel must be excluded from the restricted area when certain operations are in progress, such as discharging a vacuum pump, emptying a sterilizer liquid line, or venting a non-purge sterilizer with the door ajar or other operations where EtO might be released directly into the face of workers.

c. *Door opening procedures.* i. *Sterilizers with purge cycles.* A load treated in a sterilizer equipped with a purge cycle should be removed immediately upon completion of the cycle (provided no time is lost opening the door after cycle is completed). If this is not done, the purge cycle should be repeated before opening door.

ii. *Sterilizers without purge cycles.* For a load treated in a sterilizer not equipped with a purge cycle, the sterilizer door must be ajar 6" (15.24 cm) for 15 minutes, and then fully opened for at least another 15 minutes before removing the treated load. The length of time of the second period should be established by peak monitoring for one hour after the two 15-minute periods suggested. If the level is above 10 ppm time-weighted average for 8 hours, more time should be added to the second waiting period (door wide open). However, in no case may the second period be shortened to less than 15 minutes.

d. *Chamber unloading procedures.* i. Procedures for unloading the chamber must include the use of baskets or rolling carts, or baskets and rolling tables to transfer treated loads quickly, thus avoiding excessive contact with treated articles, and reducing the duration of exposures.

ii. If rolling carts are used, they should be pulled not pushed by the sterilizer operators to avoid offgassing exposure.

e. *Maintenance.* A written log should be instituted and maintained documenting the date of each leak detection and any maintenance procedures undertaken. This is a suggested use practice and is not required.

i. *Leak detection.* Sterilizer door gaskets, cylinder and vacuum piping, hoses, filters, and valves must be checked for leaks under full pressure with a Fluorocarbon leak detector (for 12/88 systems only) every two weeks by maintenance personnel. Also, the cylinder piping connections must be checked after changing cylinders. Particular attention in leak detection should be given to the automatic solenoid valves that control the flow of EtO to the sterilizer. Specifically, a check should be made at the EtO gasline entrance port to the sterilizer, while the sterilizer door is open and the solenoid valves are in a closed position.

ii. *Maintenance procedures.* Sterilizer/areator door gaskets, valves, and fittings must be replaced when necessary as determined by maintenance personnel in their bi-weekly checks; in addition, visual inspection of the door gaskets for cracks, debris, and other foreign substances should be conducted daily by the operator.

Appendix B to § 1926.1147—Substance Technical Guidelines for Ethylene Oxide (Non-Mandatory)

I. Physical and chemical data

A. Substance identification:

1. Synonyms: dihydrooxirene, dimethylene oxide, EO, 1,2-epoxyethane, EtO ETO oxacyclopropane, oxane, oxidoethane, alpha/beta-oxidoethane, oxiran, oxirane.

2. Formula: (C_2H_4O).

3. Molecular weight: 44.06

B. Physical data:

1. Boiling point (760 mm Hg): 10.70° C (51.3° F);

2. Specific gravity (water = 1): 0.87 (at 20°C or 68°F)

3. Vapor density (air = 1): 1.49;

4. Vapor pressure (at 20° C); 1,095 mm Hg;

5. Solubility in water: complete;

6. Appearance and odor: colorless liquid; gas at temperature above 10.7° F or 51.3° C with ether-like odor above 700 ppm.

II. Fire, explosion, and reactivity hazard data

A. Fire:

1. Flash point: less than O°F (open cup);

2. Stability: decomposes violently at temperatures above 800°F;

3. Flammable limits in air, percent by volume: Lower: 3, Upper: 100;

4. Extinguishing media: Carbon dioxide for small fires, polymer or alcohol foams for large fires;

5. Special fire fighting procedures: Dilution of ethylene oxide with 23 volumes of water renders it non-flammable;

6. Unusual fire and explosion hazards: Vapors of EtO will burn without the presence of air or other oxidizers. EtO vapors are heavier than air and may travel along the ground and be ignited by open flames or sparks at locations remote from the site at which EtO is being used.

7. For purposes of compliance with the requirements of 29 CFR 1926.152, EtO is

classified as a flammable gas. For example, 7,500 ppm, approximately one-fourth of the lower flammable limit, would be considered to pose a potential fire and explosion hazard.

B. Reactivity:

1. Conditions contributing to instability: EtO will polymerize violently if contaminated with aqueous alkalies, amines, mineral acids, metal chlorides, or metal oxides. Violent decomposition will also occur at temperatures above 800° F;

2. Incompatabilities: Alkalines and acids;

3. Hazardous decomposition products: Carbon monoxide and carbon dioxide.

III. Spill, leak, and disposal procedures

A. If EtO is spilled or leaked, the following steps should be taken:

1. Remove all ignition sources.

2. The area should be evacuated at once and re-entered only after the area has been thoroughly ventilated and washed down with water.

B. Persons not wearing appropriate protective equipment should be restricted from areas of spills or leaks until cleanup has been completed.

C. Waste disposal methods: Waste material should be disposed of in a manner that is not hazardous to employees or to the general population. In selecting the method of waste disposal, applicable local, State, and Federal regulations should be consulted.

IV. Monitoring and measurement procedures

A. Exposure above the Permissible Exposure Limit:

1. Eight-hour exposure evaluation: Measurements taken for the purpose of determining employee exposure under this section are best taken with consecutive samples covering the full shift. Air samples should be taken in the employee's breathing zone (air that would most nearly represent that inhaled by the employee.)

2. Monitoring techniques: The sampling and analysis under this section may be performed by collection of the EtO vapor on charcoal adsorption tubes or other composition adsorption tubes, with subsequent chemical analysis. Sampling and analysis may also be performed by instruments such as real-time continuous monitoring systems, portable direct reading instruments, or passive dosimeters as long as measurements taken using these methods accurately evaluate the concentration of EtO in employees' breathing zones.

Appendix D describes the validated method of sampling and analysis which has been tested by OSHA for use with EtO. Other available methods are also described in Appendix D. The employer has the obligation of selecting a monitoring method which meets the accuracy and precision requirements of the standard under his unique field conditions. The standard requires that the method of monitoring should be accurate, to a 95 percent confidence level, to plus or minus 25 percent for concentrations of EtO at 1 ppm, and to plus or minus 35 percent for concentrations at 0.5 ppm. In addition to the method described in Appendix D, there are numerous other methods available for monitoring for EtO in the workplace. Details on these other methods have been submitted by various companies to the rulemaking record, and are available at the OSHA Docket Office.

B. Since many of the duties relating to employee exposure are dependent on the results of measurement procedures, employers should assure that the evaluation of employee exposures is performed by a technically qualified person.

V. Protective clothing and equipment

Employees should be provided with and be required to wear appropriate protective clothing wherever there is significant potential for skin contact with liquid EtO or EtO-containing solutions. Protective clothing shall include impermeable coveralls or similar full-body work clothing, gloves, and head coverings, as appropriate to protect areas of the body which may come in contact with liquid EtO or EtO-containing solutions.

Employers should ascertain that the protective garments are impermeable to EtO. Permeable clothing, including items made of rubber, and leather shoes should not be allowed to become contaminated with liquid EtO. If permeable clothing does become contaminated, it should be immediately removed, while the employer is under an emergency deluge shower. If leather footwear or other leather garments become wet from EtO they should be discarded and not be worn again, because leather absorbs EtO and holds it against the skin.

Any protective clothing that has been damaged or is otherwise found to be defective should be repaired or replaced. Clean protective clothing should be provided to the employee as necessary to assure employee protection. Whenever impermeable clothing becomes wet with liquid EtO, it should be washed down with water before being removed by the employee. Employees are also required to wear splash-proof safety goggles where there is any possibility of EtO contacting the eyes.

VI. Miscellaneous precautions

A. Store EtO in tightly closed containers in a cool, well-ventilated area and take all necessary precautions to avoid any explosion hazard.

B. Non-sparking tools must be used to open and close metal containers. These containers must be effectively grounded and bonded.

C. Do not incinerate EtO cartridges, tanks or other containers.

D. Employers should advise employees of all areas and operations where exposure to EtO occur.

VII. Common operations

Common operations in which exposure to EtO is likely to occur include the following: Manufacture of EtO, surfactants, ethanolamines, glycol ethers, and specialty chemicals, and use as a sterilant in the hospital, health product and spice industries.

Appendix C to § 1926.1147—Medical Surveillance Guidelines for Ethylene Oxide (Non-Mandatory)

I. Route of entry

Inhalation.

II. Toxicology

Clinical evidence of adverse effects associated with the exposure to EtO is present in the form of increased incidence of cancer in laboratory animals (leukemia, stomach, brain), mutation in offspring in animals, and resorptions and spontaneous abortions in animals and human populations respectively. Findings in humans and experimental animals exposed to airborne concentrations of EtO also indicate damage to the genetic material (DNA). These include hemoglobin alkylation, unscheduled DNA synthesis, sister chromatid exchange chromosomal aberration, and functional sperm abnormalities.

Ethylene oxide in liquid form can cause eye irritation and injury to the cornea, frostbite, severe irritation, and blistering of the skin upon prolonged or confined contact. Ingestion of EtO can cause gastric irritation and liver injury. Other effects from inhalation of EtO vapors include respiratory irritation and lung injury, headache, nausea, vomiting, diarrhea, dyspnea and cyanosis.

III. Signs and symptoms of acute overexposure

The early effects of acute overexposure to EtO are nausea and vomiting, headache, and irritation of the eyes and respiratory passages. The patient may notice a "peculiar taste" in the mouth. Delayed effects can include pulmonary edema, drowsiness, weakness, and incoordination. Studies suggest that blood cell changes, an increase in chromosomal aberrations, and spontaneous abortion may also be causally related to acute overexposure to EtO.

Skin contact with liquid or gaseous EtO causes characteristic burns and possibly even an allergic-type sensitization. The edema and erythema occurring from skin contact with EtO progress to vesiculation with a tendency to coalesce into blebs with desquamation. Healing occurs within three weeks, but there may be a residual brown pigmentation. A 40–80% solution is extremely dangerous, causing extensive blistering after only brief contact. Pure liquid EtO causes frostbite because of rapid evaporation. In contrast, the eye is relatively insensitive to EtO, but there may be some irritation of the cornea.

Most reported acute effects of occupational exposure to EtO are due to contact with EtO in liquid phase. The liquid readily penetrates rubber and leather, and will produce blistering if clothing or footwear contaminated with EtO are not removed.

IV. Surveillance and preventive considerations

As noted above, exposure to EtO has been linked to an increased risk of cancer and reproductive effects including decreased male fertility, fetotoxicity, and spontaneous abortion. EtO workers are more likely to have chromosomal damage than similar groups not exposed to EtO. At the present, limited studies of chronic effects in humans resulting from exposure to EtO suggest a causal association with leukemia. Animal studies indicate leukemia and cancers at other sites (brain, stomach) as well. The physician should be aware of the findings of these studies in evaluating the health of employees exposed to EtO.

Adequate screening tests to determine an employee's potential for developing serious chronic diseases, such as cancer, from exposure to EtO do not presently exist. Laboratory tests may, however, give evidence to suggest that an employee is potentially overexposed to EtO. It is important for the physician to become familiar with the operating conditions in which exposure to EtO is likely to occur. The physician also must become familiar with the signs and symptoms that indicate a worker is receiving otherwise unrecognized and unacceptable exposure to EtO. These elements are especially important in evaluating the medical and work histories and in conducting the physical exam. When an unacceptable exposure in an active employee is identified by the physician, measures taken by the employer to lower exposure should also lower the risk of serious long-term consequences.

The employer is required to institute a medical surveillance program for all employees who are or will be exposed to EtO at or above the action level (0.5 ppm) for at least 30 days per year, without regard to respirator use. All examinations and procedures must be performed by or under the supervision of a licensed physician at a reasonable time and place for the employee and at no cost to the employee.

Although broad latitude in prescribing specific tests to be included in the medical surveillance program is extended to the examining physician, OSHA requires inclusion of the following elements in the routine examination:

(i) Medical and work histories with special emphasis directed to symptoms related to the pulmonary, hematologic, neurologic, and reproductive systems and to the eyes and skin.

(ii) Physical examination with particular emphasis given to the pulmonary, hematologic, neurologic, and reproductive systems and to the eyes and skin.

(iii) Complete blood count to include at least a white cell count (including differential cell count), red cell count, hematocrit, and hemoglobin.

(iv) Any laboratory or other test which the examining physician deems necessary by sound medical practice.

If requested by the employee, the medical examinations shall include pregnancy testing or laboratory evaluation of fertility as deemed appropriate by the physician.

In certain cases, to provide sound medical advice to the employer and the employee, the physician must evaluate situations not directly related to EtO. For example, employees with skin diseases may be unable to tolerate wearing protective clothing. In addition those with chronic respiratory diseases may not tolerate the wearing of negative pressure (air purifying) respirators. Additional tests and procedures that will help the physician determine which employees are medically unable to wear such respirators should include: An evaluation of cardiovascular function, a baseline chest x-ray to be repeated at five year intervals, and a pulmonary function test to be repeated every three years. The pulmonary function test should include measurement of the employee's forced vital capacity (FVC), forced expiratory volume at one second (FEV1), as well as calculation of the ratios of FEV1 to FVC, and measured FVC and measured FEV1 to expected values corrected for variation due to age, sex, race, and height.

The employer is required to make the prescribed tests available at least annually to employees who are or will be exposed at or above the action level, for 30 or more days per year; more often than specified if recommended by the examining physician; and upon the employee's termination of employment or reassignment to another work area. While little is known about the long term consequences of high short-term exposures, it appears prudent to monitor such affected employees closely in light of existing health data. The employer shall provide physician recommended examinations to any employee exposed to EtO in emergency conditions. Likewise, the employer shall make available medical consultations including physician recommended exams to employees who believe they are suffering signs or symptoms of exposure to EtO.

The employer is required to provide the physician with the following informatin: a copy of this standard and its appendices; a description of the affected employee's duties as they relate to the employee exposure level; and information from the employee's previous medical examinations which is not readily available to the examining physician. Making this information available to the physician will aid in the evaluation of the employee's health in relation to assigned duties and fitness to wear personal protective equipment, when required.

The employer is required to obtain a written opinion from the examining physician containing the results of the medical examinations; the physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of his or her health from exposure to EtO; any recommended restrictions upon the employee's exposure to EtO, or upon the use of protective clothing or equipment such as respirators; and a statement that the employee has been informed by the physician of the results of the medical examination and of any medical conditions which require further explanation or treatment. This written opinion must not reveal specific findings or diagnoses unrelated to occupational exposure to EtO, and a copy of the opinion must be provided to the affected employee.

The purpose in requiring the examining physician to supply the employer with a written opinion is to provide the employer with a medical basis to aid in the determination of initial placement of employees and to assess the employee's ability to use protective clothing and equipment.

Appendix D to § 1926.1147—Sampling and Analytical Methods for Ethylene Oxide (Non-Mandatory)

A number of methods are available for monitoring employee exposures to EtO. Most of these involve the use of charcoal tubes and sampling pumps, followed by analysis of the samples by gas chromatograph. The essential differences between the charcoal tube methods include, among others, the use of different desorbing solvents, the use of different lots of charcoal, and the use of different equipment for analysis of the samples.

Besides charcoal, methods using passive dosimeters, gas sampling bags, impingers, and detector tubes have been utilized for determination of EtO exposure. In addition, there are several commercially available portable gas analyzers and monitoring units.

This appendix contains details for the method which has been tested at the OSHA Analytical Laboratory in Salt Lake City. Inclusion of this method in the appendix does not mean that this method is the only one which will be satisfactory. Copies of descriptions of other methods available are available in the rulemaking record, and may be obtained from the OSHA Docket Office. These include the Union Carbide, Dow Chemical, 3M, and DuPont methods, as well as NIOSH Method S–286. These methods are briefly described at the end of this appendix.

Employers who note problems with sample breakthrough using the OSHA or other charcoal methods should try larger charcoal tubes. Tubes of larger capacity are available. In addition, lower flow rates and shorter sampling times should be beneficial in minimizing breakthrough problems. Whatever method the employer chooses, he must assure himself of the method's accuracy and precision under the unique conditions present in his workplace.

Ethylene Oxide

Method No.: 30.

Matrix: Air.

Target Concentration: 1.0 ppm (1.8 mg/m^3).

Procedure: Samples are collected on two charcoal tubes in series and desorbed with 1% CS_2 in benzene. The samples are derivatized with HBr and treated with sodium carbonate. Analysis is done by gas chromatography with an electron capture detector.

Recommended Air Volume and Sampling Rate: 1 liter and 0.05 Lpm.

Detection Limit of the Overall Procedure: 13.3 ppb (0.024 mg/m^3) (Based on 1.0 liter air sample).

Reliable Quantitation Limit: 52.2 ppb (0.094 mg/m^3) (Based on 1.0 liter air sample).

Standard Error of Estimate: 6.59% (See Backup Section 4.6).

Special Requirements: Samples must be analyzed within 15 days of sampling date.

Status of Method: The sampling and analytical method has been subjected to the established evaluation procedures of the Organic Method Evaluations Branch.

Date: August 1981.

Chemist: Wayne D. Potter.

Organic Solvents Branch, OSHA Analytical Laboratory, Salt Lake City, Utah

1. General Discussion.

1.1 Background.

1.1.1 History of Procedure.

Ethylene oxide samples analyzed at the OSHA Laboratory have normally been collected on activated charcoal and desorbed

with carbon disulfide. The analysis is performed with a gas chromatograph equipped with a FID (Flame ionization detector) as described in NIOSH Method S286 (Ref. 5.1). This method is based on a PEL of 50 ppm and has a detection limit of about 1 ppm.

Recent studies have prompted the need for a method to analyze and detect ethylene oxide at very low concentrations.

Several attempts were made to form an ultraviolet (UV) sensitive derivative with ethylene oxide for analysis with HPLC. Among those tested that gave no detectable product were: p-anisidine, methylimidazole, aniline, and 2,3,6-trichlorobenzoic acid. Each was tested with catalysts such as triethylamine, aluminum chloride, methylene chloride and sulfuric acid but no detectable derivative was produced.

The next derivatization attempt was to react ethylene oxide with HBr to form 2-bromoethanol. This reaction was successful. An ECD (electron capture detector) gave a very good response for 2-bromoethanol due to the presence of bromine. The use of carbon disulfide as the desorbing solvent gave too large a response and masked the 2-bromoethanol. Several other solvents were tested for both their response on the ECD and their ability to desorb ethylene oxide from the charcoal. Among those tested were toluene, xylene, ethyl benzene, hexane, cyclohexane and benzene. Benzene was the only solvent tested that gave a suitable response on the ECD and a high desorption. It was found that the desorption efficiency was improved by using 1% CS_2 with the benzene. The carbon disulfide did not significantly improve the recovery with the other solvents. SKC Lot 120 was used in all tests done with activated charcoal.

1.1.2 Physical Properties (Ref. 5.2–5.4).

Synonyms: Oxirane; dimethylene oxide, 1,2-epoxy-ethane; oxane; C_2H_4O; ETO;

Molecular Weight: 44.06

Boiling Point: 10.7 °C (51.3°)

Melting Point: −111 °C

Description: Colorless, flammable gas

Vapor Pressure: 1095 mm. at 20 °C

Odor: Ether-like odor

Lower Explosive Limits: 3.0% (by volume)

Flash Point (TOC): Below 0 °F

Molecular Structure: $CH_2—CH_2$

1.2 Limit Defining Parameters.

1.2.1 Detection Limit of the Analytical Procedure.

The detection limit of the analytical procedure is 12.0 picograms of ethylene oxide per injection. This is the amount of analyte which will give a peak whose height is five times the height of the baseline noise. (See Backup Data Section 4.1).

1.2.2 Detection Limit of the Overall Procedure.

The detection limit of the overall procedure is 24.0 ng of ethylene oxide per sample.

This is the amount of analyte spiked on the sampling device which allows recovery of an amount of analyte equivalent to the detection limit of the analytical procedure. (See Backup Data Section 4.2).

1.2.3 Reliable Quantitation Limit.

The reliable quantitation limit is 94.0 nanograms of ethylene oxide per sample. This is the smallest amount of analyte which can be quantitated within the requirements of 75% recovery and 95% confidence limits. (See Backup Data Section 4.2).

It must be recognized that the reliable quantitation limit and detection limits reported in the method are based upon optimization of the instrument for the smallest possible amount of analyte. When the target concentration of an analyte is exceptionally higher than these limits, they may not be attainable at the routine operating parameters. In this case, the limits reported on analysis reports will be based on the operating parameters used during the analysis of the samples.

1.2.4 Sensitivity.

The sensitivity of the analytical procedure over a concentration range representing 0.5 to 2 times the target concentration based on the recommended air volume is 34105 area units per µg/mL. The sensitivity is determined by the slope of the calibration curve (See Backup Data Section 4.3).

The sensitivity will vary somewhat with the particular instrument used in the analysis.

1.2.5 Recovery.

The recovery of analyte from the collection medium must be 75% or greater. The average recovery from spiked samples over the range of 0.5 to 2 times the target concentration is 88.0% (See Backup Section 4.4). At lower concentrations the recovery appears to be non-linear.

1.2.6 Precision (Analytical Method Only).

The pooled coefficient of variation obtained from replicate determination of analytical standards at 0.5X, 1X and 2X the target concentration is 0.036 (See Backup Data Section 4.5).

1.2.7 Precision (Overall Procedure).

The overall procedure must provide results at the target concentration that are 25% of better at the 95% confidence level. The precision at the 95% confidence level for the 15 day storage test is plus or minus 12.9% (See Backup Data Section 4.6).

This includes an additional plus or minus 5% for sampling error.

1.3 Advantages.

1.3.1 The sampling procedure is convenient.

1.3.2 The analytical procedure is very sensitive and reproducible.

1.3.3 Reanalysis of samples is possible.

1.3.4 Samples are stable for at least 15 days at room temperature.

1.3.5 Interferences are reduced by the longer GC retention time of the new derivative.

1.4 Disadvantages.

1.4.1 Two tubes in series must be used because of possible breakthrough and migration.

1.4.2 The precision of the sampling rate may be limited by the reproducibility of the pressure drop across the tubes. The pumps are usually calibrated for one tube only.

1.4.3 The use of benzene as the desorption solvent increases the hazards of analysis because of the potential carcinogenic effects of benzene.

1.4.4 After repeated injections there can be a buildup of residue formed on the electron capture detector which decreases sensitivity.

1.4.5 Recovery from the charcoal tubes appears to be nonlinear at low concentrations.

2. Sampling Procedure.

2.1 Apparatus.

2.1.1 A calibrated personal sampling pump whose flow can be determined within plus or minus 5% of the recommended flow.

2.1.2 SKC Lot 120 Charcoal tubes: glass tube with both ends flame sealed, 7 cm long with a 6 mm O.D. and a 4-mm I.D., containing 2 sections of coconut shell charcoal separated by a 2-mm portion of urethane foam. The adsorbing section contains 100 mg of charcoal, the backup section 50 mg. A 3-mm portion of urethane foam is placed between the outlet end of the tube and the backup section. A plug of silylated glass wool is placed in front of the adsorbing section.

2.2 Reagents.

2.2.1 None required.

2.3 Sampling Technique.

2.3.1 Immediately before sampling, break the ends of the charcoal tubes. All tubes must be from the same lot.

2.3.2 Connect two tubes in series to the sampling pump with a short section of flexible tubing. A minimum amount of tubing is used to connect the two sampling tubes together. The tube closer to the pump is used as a backup. This tube should be identified as the backup tube.

2.3.3 The tubes should be placed in a vertical position during sampling to minimize channeling.

2.3.4 Air being sampled should not pass through any hose or tubing before entering the charcoal tubes.

2.3.5 Seal the charcoal tubes with plastic caps immediately after sampling. Also, seal each sample with OSHA seals lengthwise.

2.3.6 With each batch of samples, submit at least one blank tube from the same lot used for samples. This tube should be subjected to exactly the same handling as the samples (break, seal, transport) except that no air is drawn through it.

2.3.7 Transport the samples (and corresponding paperwork) to the lab for analysis.

2.3.8 If bulk samples are submitted for analysis, they shoud be transported in glass containers with Teflon-lined caps. These samples must be mailed separately from the container used for the charcoal tubes.

2.4 Breakthrough.

2.4.1 The breakthrough (5% breakthrough) volume for a 3.0 mg/m ethylene oxide sample stream at approximately 85% relative humidity, 22°C and 633 mm is 2.6 liters sampled at 0.05 liters per minute. This is equivalent to 7.8 µg of ethylene oxide. Upon saturation of the tube it appeared that the water may be displacing ethylene oxide during sampling.

2.5 Desorption Efficiency.

2.5.1 The desorption efficiency, from liquid injection onto charcoal tubes, averaged 88.0% from 0.5 to 2.0 x the target concentration for a 1.0 liter air sample. At lower ranges it appears that the desorption efficiency is non-linear (See Backup Data Section 4.2).

2.5.2 The desorption efficiency may vary from one laboratory to another and also from

one lot of charcoal to another. Thus, it is necessary to determine the desorption efficiency for a particular lot of charcoal.

2.6 Recommended Air Volume and Sampling Rate.

2.6.1 The recommended air volume is 1.0 liter.

2.6.2 The recommended maximum sampling rate is 0.05 Lpm.

2.7 Interferences.

2.7.1 Ethylene glycol and Freon 12 at target concentration levels did not interfere with the collection of ethylene oxide.

2.7.2 Suspected interferences should be listed on the sample data sheets.

2.7.3 The relative humidity may affect the sampling procedure.

2.8 Safety Precautions.

2.8.1 Attach the sampling equipment to the employee so that it does not interfere with work performance.

2.8.2 Wear safety glasses when breaking the ends of the sampling tubes.

2.8.3 If possible, place the sampling tubes in a holder so the sharp end is not exposed while sampling.

3. Analytical Method.

3.1 Apparatus.

3.1.1 Gas chromatograph equipped with a linearized electron capture detector.

3.1.2 GC column capable of separating the derivative of ethylene oxide (2-bromoethanol) from any interferences and the 1% CS_2 in benzene solvent. The column used for validation studies was: 10 ft x ⅛ inch stainless steel 20% SP–2100, .1% Carbowax 1500 on 100/120 Supelcoport.

3.1.3 An electronic integrator or some other suitable method of measuring peak areas.

3.1.4 Two milliliter vials with Teflon-lined caps.

3.1.5 Gas tight syringe—500 µL or other convenient sizes for preparing standards.

3.1.6 Microliter syringes—10 µL or other convenient sizes for diluting standards and 1 µL for sample injections.

3.1.7 Pipets for dispensing the 1% CS_2 in benzene solvent. The Glenco 1 mL dispenser is adequate and convenient.

3.1.8 Volumetric flasks—5 mL and other convenient sizes for preparing standards.

3.1.9 Disposable Pasteur pipets.

3.2 Reagents.

3.2.1 Benzene, reagent grade.

3.2.2 Carbon Disulfide, reagent grade.

3.2.3 Ethylene oxide, 99.7% pure.

3.2.4 Hydrobromic Acid, 48% reagent grade.

3.2.5 Sodium Carbonate, anhydrous, reagent grade.

3.2.6 Desorbing reagent, 99% Benzene/1% CS_2.

3.3 Sample Preparation.

3.3.1 The front and back sections of each sample are transferred to separate 2-mL vials.

3.3.2 Each sample is desorbed with 1.0 mL of desorbing reagent.

3.3.3 The vials are sealed immediately and allowed to desorb for one hour with occasional shaking.

3.3.4 Desorbing reagent is drawn off the charcoal with a disposable pipet and put into clean 2-mL vials.

3.3.5 One drop of HBr is added to each vial. Vials are resealed and HBr is mixed well with the desorbing reagent.

3.3.6 About 0.15 gram of sodium carbonate is carefully added to each vial. Vials are again resealed and mixed well.

3.4 Standard Preparation.

3.4.1 Standards are prepared by injecting the pure ethylene oxide gas into the desorbing reagent.

3.4.2 A range of standards are prepared to make a calibration curve. A concentration of 1.0 µL of ethylene oxide gas per 1 mL desorbing reagent is equivalent to 1.0 ppm air concentration (all gas volumes at 25°C and 760 mm) for the recommended 1 liter air sample. This amount is uncorrected for desorption efficiency (See Backup Data Section 4.2. for desorption efficiency corrections).

3.4.3 One drop of HBr per mL of standard is added and mixed well.

3.4.4 About 0.15 grams of sodium carbonate is carefully added for each drop of HBr (A small reaction will occur).

3.5 Analysis.

3.5.1 GC Conditions.

Nitrogen flow rate—10mL/min.
Injector Temperature—250° C
Detector Temperature—300° C
Column Temperature—100° C
Injection size—0.8 µL
Elution time—3.9 minutes

3.5.2 Peak areas are measured by an integrator or other suitable means.

3.5.3 The integrator results are in area units and a calibration curve is set up with concentration vs. area units.

3.6 Interferences.

3.6.1 Any compound having the same retention time of 2-bromoethanol is a potential interference. Possible interferences should be listed on the sample data sheets.

3.6.2 GC parameters may be changed to circumvent interferences.

3.6.3 There are usually trace contaminants in benzene. These contaminants, however, posed no problem of interference.

3.6.4 Retention time data on a single column is not considered proof of chemical identity. Samples over the 1.0 ppm target level should be confirmed by GC/Mass Spec or other suitable means.

3.7 Calculations

3.7.1 The concentration in µg/mL for a sample is determined by comparing the area of a particular sample to the calibration curve, which has been prepared from analytical standards.

3.7.2 The amount of analyte in each sample is corrected for desorption efficiency by use of a desorption curve.

3.7.3 Analytical results (A) from the two tubes that compose a particular air sample are added together.

3.7.4 The concentration for a sample is calculated by the following equation:

$$ETO, mg/m^3 = AXB/C$$

where:

A=µg/mL

B=desorption volume in milliliters

C=air volume in liters.

3.7.5 To convert mg/m^3 to parts per million (ppm) the following relationship is used:

$$ETO, ppm = mg/m^3 \times 24.45/44.05$$

where:

mg/m^3=results from 3.7.4

24.45=molar volume at 25 °C and 760mm Hg

44.05=molecular weight of ETO.

3.8 Safety Precautions

3.8.1 Ethylene oxide and benzene are potential carcinogens and care must be exercised when working with these compounds.

3.8.2 All work done with the solvents (preparation of standards, desorption of samples, etc.) should be done in a hood.

3.8.3 Avoid any skin contact with all of the solvents.

3.8.4 Wear safety glasses at all times.

3.8.5 Avoid skin contact with HBr because it is highly toxic and a strong irritant to eyes and skin.

4. Backup Data.

4.1 Detection Limit Data.

The detection limit was determined by injecting 0.8 µL of a 0.015 µg/mL standard of ethylene oxide into 1% CS_2 in benzene. The detection limit of the analytical procedure is taken to be 1.20×10^{-3} µg per injection. This is equivalent to 8.3 ppb (0.015 mg/m^3) for the recommended air volume.

4.2 Desorption Efficiency.

Ethylene oxide was spiked onto charcoal tubes and the following recovery data was obtained.

Amount spiked (µg)	Amount recovered (µg)	Percent recovery
4.5	4.32	96.0
3.0	2.61	87.0
2.25	2.025	90.0
1.5	1.365	91.0
1.5	1.38	92.0
.75	.6525	87.0
.375	.315	84.0
.375	.312	83.2
.1875	.151	80.5
.094	.070	74.5

At lower amounts the recovery appears to be non-linear.

4.3 Sensitivity Data.

The following data was used to determine the calibration curve.

Injection	0.5x.75 µg/mL	1x1.5 µg/mL	2x3.0 µg/mL
1	30904	59567	111778
2	30987	62914	105016
3	32555	58578	106122
4	32242	57173	109716
X	31672	59556	108408

Slope=34.105.

4.4 Recovery.

The recovery was determined by spiking ethylene oxide onto lot 120 charcoal tubes and desorbing with 1% CS_2 in Benzene. Recoveries were done at 0.5, 1.0, and 2.0 X the target concentration (1 ppm) for the recommended air volume.

PERCENT RECOVERY

Sample	0.5x	1.0x	2.0x
1	86.7	95.0	91.7
2	83.6	95.0	87.3
3	84.2	91.0	86.0
4	88.0	91.0	83.0
5	88.0	86.0	85.0

PERCENT RECOVERY—Continued

Sample	0.5x	1.0x	2.0x
X	86.5	90.5	87.0

Weighted Average=88.2.

4.5 Precision of the Analytical Procedure.

The following data was used to determine the precision of the analytical method:

Concentration	0.5x.75 µg/mL	1x1.5 µg/mL	2x3.0 µg/mL
Injection	.7421	1.4899	3.1184
	.7441	1.5826	3.0447
	.7831	1.4628	2.9149
	.7753	1.4244	2.9185
Average	.7612	1.4899	2.9991
Standard Deviation	.0211	.0674	.0998
CV	.0277	.0452	.0333

Insert illus. 44

CV+0.036

4.6 Storage Data.

Samples were generated at 1.5 mg/m³ ethylene oxide at 85% relative humidity, 22°C and 633 mm. All samples were taken for 20 minutes at 0.05 Lpm. Six samples were analyzed as soon as possible and fifteen samples were stored at refrigerated temperature (5°C) and fifteen samples were stored at ambient temperature (23°C). These stored samples were analyzed over a period of nineteen days.

PERCENT RECOVERY

Day analyzed	Refrigerated	Ambient
1	87.0	87.0
1	93.0	93.0
1	94.0	94.0
1	92.0	92.0
4	92.0	91.0
4	93.0	88.0
4	91.0	89.0
6	92.0	.....
6	92.0	.....
8	.....	92.0
8	.....	86.0
10	91.7	.....
10	95.5	.....
10	95.7	.....
11	.....	90.0
11	.....	82.0
13	78.0	.....

PERCENT RECOVERY—Continued

Day analyzed	Refrigerated	Ambient
13	81.4	.....
13	82.4	.....
14	.....	78.5
14	.....	72.1
18	66.0	.....
18	68.0	.....
19	.....	64.0
19	.....	77.0

4.7 Breakthrough Data.

Breakthrough studies were done at 2 ppm (3.6 mg/m³) at approximately 85% relative humidity at 22°C (ambient temperature). Two charcoal tubes were used in series. The backup tube was changed every 10 minutes and analyzed for breakthrough. The flow rate was 0.050 Lpm.

Tube No.	Time (minutes)	Percent breakthrough
1	10	(1)
2	20	(1)
3	30	(1)
4	40	1.23
5	50	3.46
6	60	18.71
7	70	39.2
8	80	53.3
9	90	72.0
10	100	96.0
11	110	113.0
12	120	133.9

[1] None.

The 5% breakthrough volume was reached when 2.6 liters of test atmosphere were drawn through the charcoal tubes.

5. References.

5.1 "NIOSH Manual of Analytical Methods," 2nd ed. NIOSH: Cincinnati, 1977; Method S286.

5.2 "IARC Monographs on the Evaluation of Carcinogenic Risk of Chemicals to Man," International Agency for Research on Cancer: Lyon, 1976; Vol. II, p. 157.

5.3 Sax., N.I. "Dangerous Properties of Industrial Materials," 4th ed.; Van Nostrand Reinhold Company. New York, 1975; p. 741.

5.4 "The Condensed Chemical Dictionary", 9th ed.; Hawley, G.G., ed.; Van Nostrand Reinhold Company, New York, 1977; p. 361.

Summary of Other Sampling Procedures

OSHA believes that served other types of monitoring equipment and techniques exist for monitoring time-weighted averages. Considerable research and method development is currently being performed, which will lead to improvements and a wider variety of monitoring techniques. A combination of monitoring procedures can be used. There probably is no one best method for monitoring personal exposure to ethylene oxide in all cases. There are advantages, disadvantages, and limitations to each method. The method of choice will depend on the need and requirements. Some commonly used methods include the use of charcoal tubes, passive dosimeters, Tedler gas sampling bags, detector tubes, photoionization detection units, infrared detection units and gas chromatographs. A number of these methods are described below.

A. Charcoal Tube Sampling Procedures

Qazi-Ketcham method (Ex. 11–133)—This method consists of collecting EtO on Columbia JXC activated carbon, desorbing the EtO with carbon disulfide and analyzing by gas chromatography with flame ionization detection. Union Carbide has recently updated and revalidated this monitoring procedures. This method is capable of determining both eight-hour time-weighted average exposures and short-term exposures. The method was validated to 0.5 ppm. Like other charcoal collecting procedures, the method requires considerable analytical expertise.

ASTM-proposed method—The Ethylene Oxide Industry Council (EOIC) has contracted with Clayton Environmental Consultants, Inc. to conduct a collaborative study for the proposed method. The ASTM-Proposed method is similar to the method published by Qazi and Ketcham is the November 1977 American Industrial Hygiene Association Journal, and to the method of Pilney and Coyne, presented at the 1979 American Industrial Hygiene Conference. After the air to be sampled is drawn through an activated charcoal tube, the ethylene oxide is desorbed from the tube using carbon disulfide and is quantitated by gas chromatography utilizing a flame ionization detector. The ASTM-proposed method specifies a large two-section charcoal tube, shipment in dry ice, storage at less than −5°C, and analysis within three weeks to prevent migration and sample loss. Two types of charcoal tubes are being tested— • Pittsburgh Coconut-Based (PCB) and Columbia JXC charcoal. This collaborative study will give an indication of the inter- and intralaboratory precision and accuracy of the ASTM-proposed method. Several laboratories have considerable expertise using the Qazi-Ketcham and Dow methods.

B. Passive Monitors—Ethylene oxide diffuses into the monitor and is collected in the sampling media. The DuPont Pro-Tek badge collects EtO in an absorbing solution, which is analyzed colorimetrically to determine the amount of EtO present. The 3M 350 badge collects the EtO on chemically treated charcoal. Other passive monitors are currently being developed and tested. Both 3M and DuPont have submitted data indicating their dosimeters meet the precision and accuracy requirements of the proposed ethylene oxide standard. Both presented laboratory validation data to 0.2 ppm (Exs. 11–65, 4–20, 108, 109, 130).

C. Tedlar Gas Sampling Bags-Samples are collected by drawing a known volume of air into a Tedlar gas sampling bag. The ethylene oxide concentration is often determined on-site using a portable gas chromatograph or portable infrared spectometer.

D. Detector tubes—A known volume of air is drawn through a detector tube using a small hand pump. The concentration of EtO is related to the length of stain developed in the tube. Detector tubes are economical, easy to use, and give an immediate readout. Unfortunately, partly because they are nonspecific, their accuracy is often questionable. Since the sample is taken over a short period of time, they may be useful for determining the source of leaks.

E. Direct Reading Instruments—There are numerous types of direct reading instruments, each having its own strengths and weaknesses (Exs. 135B, 135C, 107, 11–78, 11–153). Many are relatively new, offering greater sensitivity and specificity. Popular ethylene oxide direct reading instruments include infrared detection units, photoionization detection units, and gas chromatographs.

Portable infrared analyzers provide an immediate, continuous indication of a concentration value; making them particularly useful for locating high concentration pockets, in leak detection and in ambient air monitoring. In infrared detection units, the amount of infrared light absorbed by the gas being analyzed at selected infrared wavelengths is related to the concentration of a particular component. Various models have either fixed or variable infrared filters, differing cell pathlengths, and microcomputer controls for greater sensitivity, automation, and interference elimination.

A fairly recent detection system is photoionization detection. The molecules are ionized by high energy ultraviolet light. The resulting current is measured. Since different substances have different ionization potentials, other organic compounds may be ionized. The lower the lamp energy, the better the selectivity. As a continuous monitor, photoionization detection can be useful for locating high concentration pockets, in leak detection, and continuous ambient air monitoring. Both portable and stationary gas chromatographs are available with various types of detectors, including photoionization detectors. A gas chromatograph with a photoionization detector retains the photionization sensitivity, but minimizes or eliminates interferences. For several GC/PID units, the sensitivity is in the 0.1–0.2 ppm EtO range. The GC/PID with microprocessors can sample up to 20 sample points sequentially, calculate and record data, and activate alarms or ventilation systems. Many are quite flexible and can be configured to meet the specific analysis needs for the workplace.

DuPont presented their laboratory validation data of the accuracy of the Qazi-Ketcham charcoal tube, the PCB charcoal tube, Miran 103 IR analyzer, 3M #3550 monitor and the Du Pont C–70 badge. Quoting Elbert V. Kring:

We also beleive that OSHA's proposed accuracy in this standard is appropriate. At plus or minus 25 percent at one part per million, and plus or minus 35 percent below that. And, our data indicates there's only one monitoring method, right now, that we've tested thoroughly, that meets that accuracy requirements. That is the Du Pont Pro-Tek badge* * *. We also believe that this kind of data should be confirmed by another independent laboratory, using the same type dynamic chamber testing (Tr. 1470)

Additional data by an independent laboratory following their exact protocol was not submitted. However, information was submitted on comparisons and precision and accuracy of those monitoring procedures which indicate far better precision and accuracy of those monitoring procedures than that obtained by Du Pont (Ex. 4–20, 130, 11–68, 11–133, 130, 135A).

The accuracy of any method depends to a large degree upon the skills and experience of those who not only collect the samples but also those who analyze the samples. Even for methods that are collaboratively tested, some laboratories are closer to the true values than others. Some laboratories may meet the precision and accuracy requirements of the method; others may consistently far exceed them for the same method.

§ 1926.1148 Formaldehyde.

(a) *Scope and application.* This standard applies to all occupational exposures to formaldehyde, i.e. from formaldehyde gas, its solutions, and materials that release formaldehyde.

(b) *Definitions.* For purposes of this standard, the following definitions shall apply:

Action level means a concentration of 0.5 part formaldehyde per million parts of air (0.5 ppm) calculated as an eight (8)-hour time-weighted average (TWA) concentration.

Assistant Secretary means the Assistant Secretary of Labor for the Occupational Safety and Health Administration, U.S. Department of Labor, or designee.

Authorized person means any person required by work duties to be present in regulated areas, or authorized to do so by the employer, by this section, or by the OSH Act of 1970.

Director means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

Emergency is any occurrence, such as but not limited to equipment failure, rupture of containers, or failure of control equipment that results in an uncontrolled release of a significant amount of formaldehyde.

Employee exposure means the exposure to airborne formaldehyde which would occur without corrections for protection provided by any respirator that is in use.

Formaldehyde means the chemical substance, HCHO, Chemical Abstracts Service Registry No. 50–00–0.

(c) *Permissible Exposure Limit (PEL)*—(1) *TWA:* The employer shall assure that no employee is exposed to an airborne concentration of formaldehyde which exceeds 0.75 parts formaldehyde per million parts of air (0.75 ppm) as an 8-hour TWA.

(2) *Short Term Exposure Limit (STEL).* The employer shall assure that no employee is exposed to an airborne concentration of formaldehyde which exceeds two parts formaldehyde per million parts of air (2 ppm) as a 15-minute STEL.

(d) *Exposure monitoring*—(1) *General.* (i) Each employer who has a workplace covered by this standard shall monitor employees to determine their exposure to formaldehyde.

(ii) *Exception.* Where the employer documents, using objective data, that the presence of formaldehyde or formaldehyde-releasing products in the workplace cannot result in airborne concentrations of formaldehyde that would cause any employee to be exposed at or above the action level or the STEL under foreseeable conditions of use, the employer will not be required to measure employee exposure to formaldehyde.

(iii) When an employee's exposure is determined from representative sampling, the measurements used shall be representative of the employee's full shift or short-term exposure to formaldehyde, as appropriate.

(iv) Representative samples for each job classification in each work area shall be taken for each shift unless the employer can document with objective data that exposure levels for a given job classification are equivalent for different work shifts.

(2) *Initial monitoring.* The employer shall identify all employees who may be exposed at or above the action level or at or above the STEL and accurately determine the exposure of each employee so identified.

(i) Unless the employer chooses to measure the exposure of each employee potentially exposed to formaldehyde, the employer shall develop a representative sampling strategy and measure sufficient exposures within each job classification for each workshift to correctly characterize and not underestimate the exposure of any employee within each exposure group.

(ii) The initial monitoring process shall be repeated each time there is a change in production, equipment, process, personnel, or control measures which may result in new or additional exposure to formaldehyde.

(iii) If the employer receives reports of signs or symptoms of respiratory or dermal conditions associated with formaldehyde exposure, the employer shall promptly monitor the affected employee's exposure.

(3) *Periodic monitoring.* (i) The employer shall periodically measure and accurately determine exposure to formaldehyde for employees shown by the initial monitoring to be exposed at or above the action level or at or above the STEL.

(ii) If the last monitoring results reveal employee exposure at or above the action level, the employer shall repeat monitoring of the employees at least every 6 months.

(iii) If the last monitoring results reveal employee exposure at or above the STEL, the employer shall repeat monitoring of the employees at least once a year under worst conditions.

(4) *Termination of monitoring.* The employer may discontinue periodic monitoring for employees if results from two consecutive sampling periods taken at least 7 days apart show that employee exposure is below the action level and the STEL. The results must be statistically representative and consistent with the employer's knowledge of the job and work operation.

(5) *Accuracy of monitoring.* Monitoring shall be accurate, at the 95 percent confidence level, to within plus or minus 25 percent for airborne concentrations of formaldehyde at the TWA and the STEL and to within plus or minus 35 percent for airborne concentrations of formaldehyde at the action level.

(6) *Employee notification of monitoring results.* Within 15 days of receiving the results of exposure monitoring conducted under this standard, the employer shall notify the affected employees of these results. Notification shall be in writing, either by distributing copies of the results to the employees or by posting the results. If the employee exposure is over either PEL, the employer shall develop and implement a written plan to reduce employee exposure to or below both PELs, and give written notice to employees. The written notice shall contain a description of the corrective action being taken by the employer to decrease exposure.

(7) *Observation of monitoring.* (i) The employer shall provide affected employees or their designated representatives an opportunity to observe any monitoring of employee exposure to formaldehyde required by this standard.

(ii) When observation of the monitoring of employee exposure to formaldehyde requires entry into an area where the use of protective clothing or equipment is required, the employer shall provide the clothing and equipment to the observer, require the observer to use such clothing and equipment, and assure that the observer complies with all other applicable safety and health procedures.

(e) *Regulated areas.* (1) The employer shall establish regulated areas where the concentration of airborne formaldehyde exceeds either the TWA or the STEL and post all entrances and accessways with signs bearing the following information:

DANGER
FORMALDEHYDE
IRRITANT AND POTENTIAL CANCER HAZARD
AUTHORIZED PERSONNEL ONLY

(2) The employer shall limit access to regulated areas to authorized persons who have been trained to recognize the hazards of formaldehyde.

(3) An employer at a multiemployer worksite who establishes a regulated area shall communicate the access restrictions and locations of these areas to other employers with work operations at that worksite.

(f) *Methods of compliance*—(1) *Engineering controls and work practices.* The employer shall institute engineering and work practice controls to reduce and maintain employee exposures to formaldehyde at or below the TWA and the STEL.

(2) *Exception.* Whenever the employer has established that feasible engineering and work practice controls cannot reduce employee exposure to or below either of the PELs, the employer shall apply these controls to reduce employee exposures to the extent feasible and shall supplement them with respirators which satisfy this standard.

(g) *Respiratory protection*—(1) *General.* Where respiratory protection is required, the employer shall provide the respirators at no cost to the employee and shall assure that they are properly used. The respirators shall comply with the requirements of this standard and shall reduce the concentration of formaldehyde inhaled by the employee to at or below both the TWA and the STEL. Respirators shall be used in the following circumstances:

(i) During the interval necessary to install or implement feasible engineering and work practice controls;

(ii) In work operations, such as maintenance and repair activities or vessel cleaning, for which the employer establishes that engineering and work practice controls are not feasible;

(iii) In work situations where feasible engineering and work practice controls are not yet sufficient to reduce exposure to or below the PELs; and

(iv) In emergencies.

(2) *Respirator selection.* (i) The appropriate respirators as specified in Table 1 shall be selected from those approved by the Mine Safety and Health Administration (MSHA) and by the National Institute for Occupational Safety and Health (NIOSH) under the provisions of 30 CFR part 11.

TABLE 1.—MINIMUM REQUIREMENTS FOR RESPIRATORY PROTECTION AGAINST FORMALDEHYDE

Condition of use or formaldehyde concentration (ppm)	Minimum respirator required[1]
Up to 7.5 ppm. (10 x PEL)	Full facepiece with cartridges or canisters specifically approved for protection against formaldehyde.[2]
Up to 75 ppm. (100 x PEL)	Full-face mask with chin style or chest or back mounted type with industrial size canister specifically approved for protection against formaldehyde. Type C supplied-air respirator, pressure demand or continuous flow type, with full facepiece, hood, or helmet.
Above 75 ppm or unknown (emergencies). (100 x PEL).	Self-contained breathing apparatus (SCBA) with positive pressure full facepiece. Combination supplied-air, full facepiece positive pressure respirator with auxiliary self-contained air supply.
Firefighting	SCBA with positive pressure in full facepiece.
Escape	SCBA in demand or pressure demand mode. Full-face mask with chin style or front or back mounted type industrial size canister specifically approved for protection against formaldehyde.

[1] Respirators specified for use at higher concentrations may be used at lower concentrations.
[2] A half-mask respirator with cartridges specifically approved for protection against formaldehyde can be substituted for the full facepiece respirator providing that effective gas-proof goggles are provided and used in combination with the half-mask respirator.

(ii) The employer shall make available a powered air-purifying respirator adequate to protect against formaldehyde exposure to any employee who experiences difficulty wearing a negative pressure respirator to reduce exposure to formaldehyde.

(3) *Respirator usage.* (i) whenever respirator use is required by this standard, the employer shall institute a respiratory protection program in accordance with 29 CFR 1926.103 (b), (d), (e), and (f).

(ii) The employer shall perform either quantitative or qualitative face fit tests in accordance with the procedures outlined in Appendix E at the time of initial fitting and at least annually thereafter for all employees required by this standard to wear negative pressure respirators.

(A) Respirators selected shall be from those exhibiting the best facepiece fit.

(B) No respirator shall be chosen that would potentially permit the employee to inhale formaldehyde at concentrations in excess of either the TWA or the STEL.

(iii) Where air purifying chemical cartridge respirators are used, the cartridges shall be replaced after three hours of use or at the end of the workshift, whichever is sooner unless the cartridge contains a NIOSH-approved end-of-service indicator to show when breakthrough occurs.

(iv) Unless the canister contains a NIOSH-approved end-of-service-life indicator to show when breakthrough occurs, canisters used in atmospheres up to 7.5 ppm (10×PEL) shall be replaced every 4 hours and industrial sized canisters used in atmospheres up to 75 ppm (100×PEL) shall be replaced every two hours or at the end of the workshift, whichever is sooner.

(v) Employers shall permit employees to leave the work area to wash their faces and respirator facepieces as needed to prevent skin irritation from respirator use.

(h) *Protective equipment and clothing.* Employers shall comply with the provisions of §§1926.95 and 1926.102 of this part. When protective equipment or clothing is provided under these provisions, the employer shall provide these protective devices at no cost to the employee and assure that the employee wears them.

(1) *Selection.* The employer shall select protective clothing and equipment based upon the form of formaldehyde to be encountered, the conditions of use, and the hazard to be prevented.

(i) All contact of the eyes and skin with liquids containing 1 percent or more formaldehyde shall be prevented by the use of chemical protective clothing made of material impervious to formaldehyde and the use of other personal protective equipment, such as goggles and face shields, as appropriate to the operation.

(ii) Contact with irritating or sensitizing materials shall be prevented to the extent necessary to eliminate the hazard.

(iii) Where a face shield is worn, chemical safety goggles are also required if there is a danger of formaldehyde reaching the area of the eye.

(iv) Full body protection shall be worn for entry into areas where concentrations exceed 100 ppm and for emergency reentry into areas of unknown concentration.

(2) *Maintenance of protective equipment and clothing.* (i) The employer shall assure that protective equipment and clothing that has become contaminated with formaldehyde is cleaned or laundered before its reuse.

(ii) When ventilating formaldehyde-contaminated clothing and equipment, the employer shall establish a storage area so that employee exposure is minimized. Containers for contaminated clothing and equipment and storage areas shall have labels and signs containing the following information:

DANGER

FORMALDEHYDE–CONTAMINATED [CLOTHING] EQUIPMENT

AVOID INHALATION AND SKIN CONTACT

(iii) The employer shall assure that only persons trained to recognize the hazards of formaldehyde remove the contaminated material from the storage area for purposes of cleaning, laundering, or disposal.

(iv) The employer shall assure that no employee takes home equipment or clothing that is contaminated with formaldehyde.

(v) The employer shall repair or replace all required protective clothing and equipment for each affected employee as necessary to assure its effectiveness.

(vi) The employer shall inform any person who launders, cleans, or repairs such clothing or equipment of formaldehyde's potentially harmful effects and of procedures to safely handle the clothing and equipment.

(i) *Hygiene protection.* (1) The employer shall provide change rooms, as described in 29 CFR 1926.51 for employees who are required to change from work clothing into protective clothing to prevent skin contact with formaldehyde.

(2) If employees' skin may become spashed with solutions containing 1 percent or greater formaldehyde, for example, because of equipment failure or improper work practices, the employer shall provide conveniently located quick drench showers and assure that affected employees use these facilities immediately.

(3) If there is any possibility that an employee's eyes may be splashed with solutions containing 0.1 percent or greater formaldehyde, the employer shall provide acceptable eyewash facilities within the immediate work area for emergency use.

(j) *Housekeeping.* For operations involving formaldehyde liquids or gas,

the employer shall conduct a program to detect leaks and spills, including regular visual inspections.

(1) Preventative maintenance of equipment, including surveys for leaks, shall be undertaken at regular intervals.

(2) In work areas where spillage may occur, the employer shall make provisions to contain the spill, to decontaminate the work area, and to dispose of the waste.

(3) The employer shall assure that all leaks are repaired and spills are cleaned promptly by employees wearing suitable protective equipment and trained in proper methods for cleanup and decontamination.

(4) Formaldehyde-contaminated waste and debris resulting from leaks or spills shall be placed for disposal in sealed containers bearing a label warning of formaldehyde's presence and of the hazards associated with formaldehyde.

(k) *Emergencies.* For each workplace where there is the possibility of an emergency involving formaldehyde, the employer shall assure appropriate procedures are adopted to minimize injury and loss of life. Appropriate procedures shall be implemented in the event of an emergency.

(l) *Medical surveillance*—(1) *Employees covered.* (i) The employer shall institute medical surveillance programs for all employees exposed to formaldehyde at concentrations at or exceeding the action level or exceeding the STEL.

(ii) The employer shall make medical surveillance available for employees who develop signs and symptoms of overexposure to formaldehyde and for all employees exposed to formaldehyde in emergencies. When determining whether an employee may be experiencing signs and symptoms of possible overexposure to formaldehyde, the employer may rely on the evidence that signs and symptoms associated with formaldehyde exposure will occur only in exceptional circumstances when airborne exposure is less than 0.1 ppm and when formaldehyde is present in material in concentrations less than 0.1 percent.

(2) *Examination by a physician.* All medical procedures, including administration of medical disease questionnaires, shall be performed by or under the supervision of a licensed physician and shall be provided without cost to the employee, without loss of pay, and at a reasonable time and place.

(3) *Medical disease questionnaire.* The employer shall make the following medical surveillance available to employees prior to assignment to a job where formaldehyde exposure is at or above the action level or above the STEL and annually thereafter. The employer shall also make the following medical surveillance available promptly upon determining that an employee is experiencing signs and symptoms indicative of possible overexposure to formaldehyde.

(i) Administration of a medical disease questionnaire, such as in appendix D, which is designed to elicit information on work history, smoking history, any evidence of eye, nose, or throat irritation; chronic airway problems or hyperreactive airway disease: allergic skin conditions or dermatitis; and upper or lower respiratory problems.

(ii) A determination by the physician, based on evaluation of the medical disease questionnaire, of whether a medical examination is necessary for employees not required to wear respirators to reduce exposure to formaldehyde.

(4) *Medical examinations.* Medical examinations shall be given to any employee who the physician feels, based on information in the medical disease questionnaire, may be at increased risk from exposure to formaldehyde and at the time of initial assignment and at least annually thereafter to all employees required to wear a respirator to reduce exposure to formaldehyde. The medical examination shall include:

(i) A physical examination with emphasis on evidence of irritation or sensitization of the skin and respiratory system, shortness of breath, or irritation of the eyes.

(ii) Laboratory examinations for respirator wearers consisting of baseline and annual pulmonary function tests. As a minimum, these tests shall consist of forced vital capacity (FVC), forced expiratory volume in one second (FEV_1), and forced expiratory flow (FEF).

(iii) Any other test which the examining physician deems necessary to complete the written opinion.

(iv) Counseling of employees having medical conditions that would be directly or indirectly aggravated by exposure to formaldehyde on the increased risk of impairment of their health.

(5) *Examinations for employees exposed in an emergency.* The employer shall make medical examinations available as soon as possible to all employees who have been exposed to formaldehyde in an emergency.

(i) The examination shall include a medical and work history with emphasis on any evidence of upper or lower respiratory problems, allergic conditions, skin reaction or hypersensitivity, and any evidence of eye, nose, or throat irritation.

(ii) Other examinations shall consist of those elements considered appropriate by the examining physician.

(6) *Information provided to the physician.* The employer shall provide the following information to the examining physician:

(i) A copy of this standard and appendix A, C, D, and E;

(ii) A description of the affected employee's job duties as they relate to the employee's exposure to formaldehyde;

(iii) The representative exposure level for the employee's job assignment;

(iv) Information concerning any personal protective equipment and respiratory protection used or to be used by the employee; and

(v) Information from previous medical examinations of the affected employee within the control of the employer.

(vi) In the event of a nonroutine examination because of an emergency, the employer shall provide to the physician as soon as possible: A description of how the emergency occurred and the exposure the victim may have received.

(7) *Physician's written opinion.* (i) For each examination required under this standard, the employer shall obtain a written opinion from the examining physician. This written opinion shall contain the results of the medical examination except that it shall not reveal specific findings or diagnoses unrelated to occupational exposure to formaldehyde. The written opinion shall include:

(A) The physician's opinion as to whether the employee has any medical condition that would place the employee at an increased risk of material impairment of health from exposure to formaldehyde;

(B) Any recommended limitations on the employee's exposure or changes in the use of personal protective equipment, including respirators;

(C) A statement that the employee has been informed by the physician of any medical conditions which would be aggravated by exposure to formaldehyde, whether these conditions may have resulted from past formaldehyde exposure or from exposure in an emergency, and whether there is a need for further examination or treatment.

(ii) The employer shall provide for retention of the results of the medical examination and tests conducted by the physician.

(iii) The employer shall provide a copy of the physician's written opinion

to the affected employee within 15 days of its receipt.

(8) *Medical removal.* (i) The provisions of paragraph (l)(8) apply when an employee reports significant irritation of the mucosa of the eyes or the upper airways, respiratory sensitization, dermal irritation, or dermal sensitization attributed to workplace formaldehyde exposure. Medical removal provisions do not apply in the case of dermal irritation or dermal sensitization when the product suspected of causing the dermal condition contains less than 0.05% formaldehyde.

(ii) An employee's report of signs or symptoms of possible overexposure to formaldehyde shall be evaluated by a physician selected by the employer pursuant to paragraph (l)(3). If the physician determines that a medical examination is not necessary under paragraph (l)(3)(ii), there shall be a two-week evaluation and remediation period to permit the employer to ascertain whether the signs or symptoms subside untreated or with the use of creams, gloves, first aid treatment or personal protective equipment. Industrial hygiene measures that limit the employee's exposure to formaldehyde may also be implemented during this period. The employee shall be referred immediately to a physician prior to expiration of the two-week period if the signs or symptoms worsen. Earnings, seniority and benefits may not be altered during the two-week period by virtue of the report.

(iii) If the signs or symptoms have not subsided or been remedied by the end of the two-week period, or earlier if signs or symptoms warrant, the employee shall be examined by a physician selected by the employer. The physician shall presume, absent contrary evidence, that observed dermal irritation or dermal sensitization are not attributable to formaldehyde when products to which the affected employee is exposed contain less than 0.1% formaldehyde.

(iv) Medical examinations shall be conducted in compliance with the requirements of paragraph (l)(5) (i) and (ii). Additional guidelines for conducting medical exams are contained in Appendix C.

(v) If the physician finds that significant irritation of the mucosa of the eyes or of the upper airways, respiratory sensitization, dermal irritation, or dermal sensitization result from workplace formaldehyde exposure and recommends restrictions or removal, the employer shall promptly comply with the restrictions or recommendation of removal. In the event of a recommendation of removal, the employer shall remove the effected employee from the current formaldehyde exposure and if possible, transfer the employee to work having no or significantly less exposure to formaldehyde.

(vi) When an employee is removed pursuant to paragraph (l)(8)(v), the employer shall transfer the employee to comparable work for which the employee is qualified or can be trained in a short period (up to 6 months), where the formaldehyde exposures are as low as possible, but not higher than the action level. The employeer shall maintain the employee's current earnings, seniority, and other benefits. If there is no such work available, the employer shall maintain the employee's current earnings, seniority and other benefits until such work becomes available, until the employee is determined to be unable to return to workplace formaldehyde exposure, until the employee is determined to be able to return to the original job status, or for six months, whichever comes first.

(vii) The employer shall arrange for a follow-up medical examination to take place within six months after the employee is removed pursuant to this paragraph. This examination shall determine if the employee can return to the original job status, or if the removal is to be permanent. The physician shall make a decision within six months of the date the employee was removed as to whether the employee can be returned to the original job status, or if the removal is to be permanent.

(viii) An employer's obligation to provide earnings, seniority and other benefits to a removed employee may be reduced to the extent that the employee receives compensation for earnings lost during the period of removal either from a publicly or employer-funded compensation program or from employment with another employer made possible by virtue of the employee's removal.

(ix) In making determinations of the formaldehyde content of materials under this paragraph the employer may rely on objective data.

(9) *Multiple physician review.* (i) After the employer selects the initial physician who conducts any medical examination or consultation to determine whether medical removal or restriction is appropriate, the employee may designate a second physician to review any findings, determinations or recommendations of the initial physician and to conduct such examinations, consultations, and laboratory tests as the second physician deems necessary and appropriate to evaluate the effects of formaldehyde exposure and to facilitate this review.

(ii) The employer shall promptly notify an employee of the right to seek a second medical opinion after each occasion that an initial physician conducts a medical examination or consultation for the purpose of medical removal or restriction.

(iii) The employer may condition its participation in, and payment for, the multiple physician review mechanism upon the employee doing the following within fifteen (15) days after receipt of the notification of the right to seek a second medical opinion, or receipt of the initial physician's written opinion, whichever is later;

(A) The employee informs the employer of the intention to seek a second medical opinion, and

(B) The employee initiates steps to make an appointment with a second physician.

(iv) If the findings, determinations or recommendations of the second physician differ from those of the initial physician, then the employer and the employee shall assure that efforts are made for the two physicians to resolve the disagreement. If the two physicians are unable to quickly resolve their disagreement, then the employer and the employee through their respective physicians shall designate a third physician who shall be a specialist in the field at issue:

(A) To review the findings, determinations or recommendations of the prior physicians; and

(B) To conduct such examinations, consultations, laboratory tests and discussions with the prior physicians as the third physician deems necessary to resolve the disagreement of the prior physicians.

(v) In the alternative, the employer and the employee or authorized employee representative may jointly designate such third physician.

(vi) The employer shall act consistent with the findings, determinations and recommendations of the third physician, unless the employer and the employee reach an agreement which is otherwise consistent with the recommendations of at least one of the three physicians.

(m) *Hazard communication*—(1) *General.* Communication of the hazards associated with formaldehyde in the workplace shall be governed by the requirements of paragraph (m). The definitions of 29 CFR 1926.59(c) shall apply under this paragraph.

(i) The following shall be subject to the hazard communication requirements of this paragraph: Formaldehyde gas, all mixtures or solutions composed of

greater than 0.1 percent formaldehyde, and materials capable of releasing formaldehyde into the air, under reasonably foreseeable conditions of use, at concentrations reaching or exceeding 0.1 ppm.

(ii) As a minimum, specific health hazards that the employer shall address are: Cancer, irritation and sensitization of the skin and respiratory system, eye and throat irritation, and acute toxicity.

(2) Manufacturers and importers who produce or import formaldehyde or formaldehyde-containing products shall provide downstream employers using or handling these products with an objective determination through the required labels and MSDSs if these items may constitute a health hazard within the meaning of 29 CFR 1926.59(d) under normal conditions of use.

(3) *Labels.* (i) The employer shall assure that hazard warning labels complying with the requirements of 29 CFR 1926.59(f) are affixed to all containers of materials listed in paragraph (m)(1)(i), except to the extent that 29 CFR 1926.59(f) is inconsistent with this paragraph.

(ii) *Information on labels.* As a minimum, for all materials listed in paragraph (m)(1)(i) capable of releasing formaldehyde at levels of 0.1 ppm to 0.5 ppm, labels shall identify that the product contains formaldehyde; list the name and address of the responsible party; and state that physical and health hazard information is readily available from the employer and from material safety data sheets.

(iii) For materials listed in paragraph (m)(1)(i) capable of releasing formaldehyde at levels above 0.5 ppm, labels shall appropriately address all hazards as defined in 29 CFR 1926.59 (d) and appendices A and B to that section, including respiratory sensitization, and shall contain the words "Potential Cancer Hazard."

(iv) In making the determinations of anticipated levels of formaldehyde release, the employer may rely on objective data indicating the extent of potential formaldehyde release under reasonably foreseeable conditions of use.

(v) *Substitute warning labels.* The employer may use warning labels required by other statutes, regulations, or ordinances which impart the same information as the warning statements required by this paragraph.

(4) *Material safety data sheets.* (i) Any employer who uses formaldehyde-containing materials listed in paragraph (m)(1)(i) shall comply with the requirements of 29 CFR 1926.59(g) with regard to the development and updating of material safety data sheets.

(ii) Manufacturers, importers, and distributors of formaldehyde-containing materials listed in paragraph (m)(1)(i) shall assure that material safety data sheets and updated information are provided to all employers purchasing such materials at the time of the initial shipment and at the time of the first shipment after a material safety data sheet is updated.

(5) *Written hazard communication program.* The employer shall develop, implement, and maintain at the workplace, a written hazard communication program for formaldehyde exposures in the workplace, which at a minimum describes how the requirements specified in this paragraph for labels and other forms of warning and material safety data sheets, and paragraph (n) for employee information and training, will be met. Employers in multi-employer workplaces shall comply with the requirements of § 1926.59(e)(2) of this part.

(n) *Employee information and training*—(1) *Participation.* The employer shall assure that all employees who are assigned to workplaces where there is exposure to formaldehyde participate in a training program, except that where the employer can show, using objective data, that employees are not exposed to formaldehyde at or above 0.1 ppm, the employer is not required to provide training.

(2) *Frequency.* Employers shall provide such information and training to employees at the time of initial assignment, and whenever a new exposure to formaldehyde is introduced into the work area. The training shall be repeated at least annually.

(3) *Training program.* The training program shall be conducted in a manner which the employee is able to understand and shall include:

(i) A discussion of the contents of this regulation and the contents of the Material Safety Data Sheet.

(ii) The purpose for and a description of the medical surveillance program required by this standard, including:

(A) A description of the potential health hazards associated with exposure to formaldehyde and a description of the signs and symptoms of exposure to formaldehyde.

(B) Instructions to immediately report to the employer the development of any adverse signs or symptoms that the employee suspects is attributable to formaldehyde exposure.

(iii) Description of operations in the work area where formaldehyde is present and an explanation of the safe work practices appropriate for limiting exposure to formaldehyde in each job;

(iv) The purpose for, proper use of, and limitations of personal protective clothing and equipment;

(v) Instructions for the handling of spills, emergencies, and clean-up procedures;

(vi) An explanation of the importance of engineering and work practice controls for employee protection and any necessary instruction in the use of these controls; and

(vii) A review of emergency procedures including the specific duties or assignments of each employee in the event of an emergency.

(4) *Access to training materials.* (i) The employer shall inform all affected employees of the location of written training materials and shall make these materials readily available, without cost, to the affected employees.

(ii) The employer shall provide, upon request, all training materials relating to the employee training program to the Assistant Secretary and the Director.

(o) *Recordkeeping*—(1) *Exposure measurements.* The employer shall establish and maintain an accurate record of all measurements taken to monitor employee exposure to formaldehyde. This record shall include:

(i) The date of measurement;

(ii) The operation being monitored;

(iii) The methods of sampling and analysis and evidence of their accuracy and precision;

(iv) The number, durations, time, and results of samples taken;

(v) The types of protective devices worn; and

(vi) The names, job classifications, social security numbers, and exposure estimates of the employees whose exposures are represented by the actual monitoring results.

(2) *Exposure determinations.* Where the employer has determined that no monitoring is required under this standard, the employer shall maintain a record of the objective data relied upon to support the determination that no employee is exposed to formaldehyde at or above the action level.

(3) *Medical surveillance.* The employer shall establish and maintain an accurate record for each employee subject to medical surveillance under this standard. This record shall include:

(i) The name and social security number of the employee;

(ii) The physician's written opinion;

(iii) A list of any employee health complaints that may be related to exposure to formaldehyde; and

(iv) A copy of the medical examination results, including medical

disease questionnaires and results of any medical tests required by the standard or mandated by the examining physician.

(4) *Respirator fit testing.* (i) The employer shall establish and maintain accurate records for employees subject to negative pressure respirator fit testing required by this standard.

(ii) This record shall include:

(A) A copy of the protocol selected for respirator fit testing.

(B) A copy of the results of any fit testing performed.

(C) The size and manufacturer of the types of respirators available for selection.

(D) The date of the most recent fit testing, the name and social security number of each tested employee, and the respirator type and facepiece selected.

(5) *Record retention.* The employer shall retain records required by this standard for at least the following periods:

(i) Exposure records and determinations shall be kept for at least 30 years.

(ii) Medical records shall be kept for the duration of employment plus 30 years.

(iii) Respirator fit testing records shall be kept until replaced by a more recent record.

(6) *Availability of records.* (i) Upon request, the employer shall make all records maintained as a requirement of this standard available for examination and copying to the Assistant Secretary and the Director.

(ii) The employer shall make employee exposure records, including estimates made from representative monitoring and available upon request for examination, and copying to the subject employee, or former employee, and employee representatives in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i).

(iii) Employee medical records required by this standard shall be provided upon request for examination and coying, to the subject employee or former employee or to anyone having the specific written consent of the subject employee or former employee in accordance with 29 CFR 1926.33 (a)–(e) and (g)–(i).

(p) *Dates*—(1) *Effective dates*—(i) *General.* This section shall become effective February 2, 1988, except as noted below.

(ii) *Laboratories.* This standard shall become effective for anatomy, histology, and pathology laboratories February 2, 1988, except as noted in the start-up date section. For all other laboratories, paragraphs (a) and (c) of this standard shall become effective February 2, 1988, and paragraphs (b) and (d)–(o) of this standard shall become effective on September 1, 1988, except as noted in the start-up date section.

(2) *Start-up dates*—(i) *Exposure determinations.* Initial monitoring or objective determinations that no monitoring is required by the standard shall be completed by 6 months after the effective date of the standard.

(ii) *Medical surveillance.* The initial medical surveillance of all eligible employees shall be completed by 6 months after the effective date of the standard.

(iii) *Emergencies.* The emergency procedures required by this standard shall be implemented by 6 months after the effective date of the standard.

(iv) *Respiratory protection.* Respiratory protection as required in this standard shall be provided as soon as possible and no later than 9 months after the effective date of the standard.

(v) *Engineering and work practice controls.* Engineering and work practice controls required by this standard shall be implemented as soon as possible, but no later than one year after the effective date of the standard.

(vi) *Employee training.* Written materials for employee training shall be updated as soon as possible, but no later than 2 months after the effective date of the standard.

(3) *Start-up dates of amended paragraphs*—(i) *Respiratory protection.* Respiratory protection required to meet the amended PEL of 0.75 ppm TWA shall be provided as soon as possible but no later than September 24, 1992.

(ii) *Engineering and work practice controls.* Engineering and work practice controls required to meet the amended PEL of 0.75 ppm TWA shall be implemented as soon as possible, but no later than June 26, 1993.

(iii) *Medical removal protection.* The medical removal protection provisions including the multiple physician review mechanism shall be implemented no later than December 28, 1992.

(iv) *Hazard communication.* The labeling provisions contained in amended paragraph (m) of this standard shall be implemented no later than December 28, 1992. Labeling of containers of formaldehyde products shall continue to comply with the provisions of 29 CFR 1926.59 (e)–(j) until that time.

(v) *Training.* The periodic training mandated for all employees exposed to formaldehyde between 0.1 ppm and 0.5 ppm shall begin no later than August 25, 1992.

(Approved by the Office of Management and Budget under control number 1218–0145)

Appendix A to § 1926.1148—Substance Technical Guidelines for Formalin

The following Substance Technical Guideline for Formalin provides information on uninhibited formalin solution (37% formaldehyde, no methanol stabilizer). It is designed to inform employees at the production level of their rights and duties under the formaldehyde standard whether their job title defines them as workers or supervisors. Much of the information provided is general; however, some information is specific for formalin. When employee exposure to formaldehyde is from resins capable of releasing formaldehyde, the resin itself and other impurities or decomposition products may also be toxic, and employers should include this information as well when informing employees of the hazards associated with the materials they handle. The precise hazards associated with exposure to formaldehyde depend both on the form (solid, liquid, or gas) of the material and the concentration of formaldehyde present. For example, 37–50 percent solutions of formaldehyde present a much greater hazard to the skin and eyes from spills or splashes than solutions containing less than 1 percent formaldehyde. Individual Substance Technical Guidelines used by the employer for training employees should be modified to properly give information on the material actually being used.

Substance Identification

Chemical Name: Formaldehyde
Chemical Family: Aldehyde
Chemical Formula: HCHO
Molecular Weight: 30.03
Chemical Abstracts Service Number (CAS Number): 50–00–0

Synonyms: Formalin; Formic Aldehyde; Paraform; Formol; Formalin (Methanol-free); Fyde; Formalith; Methanal; Methyl Aldehyde; Methylene Glycol; Methylene Oxide; Tetraoxymethalene; Oxomethane; Oxymethylene

Components and Contaminants

Percent: 37.0 Formaldehyde
Percent: 63.0 Water

(Note.—Inhibited solutions contain methanol.)

Other Contaminants: Formic acid (alcohol free)
Exposure Limits:

OSHA TWA—0.75 ppm
OSHA STEL—2 ppm

Physical Data

Description: Colorless liquid, pungent odor
Boiling point: 214° F (101 °C)
Specific Gravity: 1.08 (H_2O=1 @ 20 °C)
pH: 2.8–4.0
Solubility in Water: Miscible
Solvent Solubility: Soluble in alcohol and acetone
Vapor Density: 1.04 (Air=1 @ 20 °C)
Odor Threshold: 0.8–1 ppm

Fire and Explosion Hazard

Moderate fire and explosion hazard when exposed to heat or flame.

The flash point of 37% formaldehyde solutions is above normal room temperature, but the explosion range is very wide, from 7 to 73% by volume in air.

Reaction of formaldehyde with nitrogen dioxide, nitromethane, perchloric acid and aniline, or peroxyformic acid yields explosive compounds.

Flash Point: 185 °F (85 °C) closed cup
Lower Explosion Limit: 7%
Upper Explosion Limit: 73%
Autoignition Temperature: 806 °F (430 °C)
Flammability Class (OSHA): III A

Extinguishing Media: Use dry chemical, "alcohol foam", carbon dioxide, or water in flooding amounts as fog. Solid streams may not be effective. Cool fire-exposed containers with water from side until well after fire is out.

Use of water spray to flush spills can also dilute the spill to produce nonflammable mixtures. Water runoff, however, should be contained for treatment.

National Fire Protection Association Section 325M Designation:

Health: 2—Materials hazardous to health, but areas may be entered with full-faced mask self-contained breathing apparatus which provides eye protection.

Flammability: 2—Materials which must be moderately heated before ignition will occur. Water spray may be used to extinguish the fire because the material can be cooled below its flash point.

Reactivity: D—Materials which (in themselves) are normally stable even under fire exposure conditions and which are not reactive with water. Normal fire fighting procedures may be used.

Reactivity

Stability: Formaldehyde solutions may self-polymerize to form paraformaldehyde which precipitates.

Incompatibility (Materials to Avoid): Strong oxidizing agents, caustics, strong alkalies, isocyanates, anhydrides, oxides, and inorganic acids. Formaldehyde reacts with hydrochloric acid to form the potent carcinogen, bis-chloromethyl ether. Formaldehyde reacts with nitrogen dioxide, nitromethane, perchloric acid and aniline, or peroxyformic acid to yield explosive compounds. A violent reaction occurs when formaldehyde is mixed with strong oxidizers.

Hazardous Combustion or Decomposition Products: Oxygen from the air can oxidize formaldehyde to formic acid, especially when heated. Formic acid is corrosive.

Health Hazard Data

Acute Effects of Exposure

Ingestion (Swallowing): Liquids containing 10 to 40% formaldehyde cause severe irritation and inflammation of the mouth, throat, and stomach. Severe stomach pains will follow ingestion with possible loss of consciousness and death. Ingestion of dilute formaldehyde solutions (0.03–0.04%) may cause discomfort in the stomach and pharynx.

Inhalation (Breathing): Formaldehyde is highly irritating to the upper respiratory tract and eyes. Concentrations of 0.5 to 2.0 ppm may irritate the eyes, nose, and throat of some individuals. Concentrations of 3 to 5 ppm also cause tearing of the eyes and are intolerable to some persons. Concentrations of 10 to 20 ppm cause difficulty in breathing, burning of the nose and throat, cough, and heavy tearing of the eyes, and 25 to 30 ppm causes severe respiratory tract injury leading to pulmonary edema and pneumonitis. A concentration of 100 ppm is immediately dangerous to life and health. Deaths from accidental exposure to high concentrations of formaldehyde have been reported.

Skin (Dermal): Formalin is a severe skin irritant and a sensitizer. Contact with formalin causes white discoloration, smarting, drying, cracking, and scaling. Prolonged and repeated contact can cause numbness and a hardening or tanning of the skin. Previously exposed persons may react to future exposure with an allergic eczematous dermatitis or hives.

Eye Contact: Formaldehyde solutions splashed in the eye can cause injuries ranging from transient discomfort to severe, permanent corneal clouding and loss of vision. The severity of the effect depends on the concentration of formaldehyde in the solution and whether or not the eyes are flushed with water immediately after the accident.

Note.—The perception of formaldehyde by odor and eye irritation becomes less sensitive with time as one adapts to formaldehyde. This can lead to overexposure if a worker is relying on formaldehyde's warning properties to alert him or her to the potential for exposure.

Acute Animal Toxicity:
Oral, rats: LD50=800 mg/kg
Oral, mouse: LD50=42 mg/kg
Inhalation, rats: LCLo=250 mg/kg
Inhalation, mouse: LCLo=900 mg/kg
Inhalation, rats: LC50=590 mg/kg

Chronic Effects of Exposure

Carcinogenicity: Formaldehyde has the potential to cause cancer in humans. Repeated and prolonged exposure increases the risk. Various animal experiments have conclusively shown formaldehyde to be a carcinogen in rats. In humans, formaldehyde exposure has been associated with cancers of the lung, nasopharynx and oropharynx, and nasal passages.

Mutagenicity: Formaldehyde is genotoxic in several *in vitro* test systems showing properties of both an initiator and a promoter.

Toxicity: Prolonged or repeated exposure to formaldehyde may result in respiratory impairment. Rats exposed to formaldehyde at 2 ppm developed benign nasal tumors and changes of the cell structure in the nose as well as inflamed mucous membranes of the nose. Structural changes in the epithelial cells in the human nose have also been observed. Some persons have developed asthma or bronchitis following exposure to formaldehyde, most often as the result of an accidental spill involving a single exposure to a high concentration of formaldehyde.

Emergency and First Aid Procedures

Ingestion (Swallowing): If the victim is conscious, dilute, inactivate, or absorb the ingested formaldehyde by giving milk, activated charcoal, or water. Any organic material will inactivate formaldehyde. Keep affected person warm and at rest. Get medical attention immediately. If vomiting occurs, keep head lower than hips.

Inhalation (Breathing): Remove the victim from the exposure area to fresh air immediately. Where the formaldehyde concentration may be very high, each rescuer must put on a self-contained breathing apparatus before attempting to remove the victim, and medical personnel should be informed of the formaldehyde exposure immediately. If breathing has stopped, give artificial respiration. Keep the affected person warm and at rest. Qualified first-aid or medical personnel should administer oxygen, if available, and maintain the patient's airways and blood pressure until the victim can be transported to a medical facility. If exposure results in a highly irritated upper respiratory tract and coughing continues for more than 10 minutes, the worker should be hospitalized for observation and treatment.

Skin Contact: Remove contaminated clothing (including shoes) immediately. Wash the affected area of your body with soap or mild detergent and large amounts of water until no evidence of the chemical remains (at least 15 to 20 minutes). If there are chemical burns, get first aid to cover the area with sterile, dry dressing, and bandages. Get medical attention if you experience appreciable eye or respiratory irritation.

Eye Contact: Wash the eyes immediately with large amounts of water occasionally lifting lower and upper lids, until no evidence of chemical remains (at least 15 to 20 minutes). In case of burns, apply sterile bandages loosely without medication. Get medical attention immediately. If you have experienced appreciable eye irritation from a splash or excessive exposure, you should be referred promptly to an opthamologist for evaluation.

Emergency Procedures

Emergencies: If you work in an area where a large amount of formaldehyde could be released in an accident or from equipment failure, your employer must develop procedures to be followed in event of an emergency. You should be trained in your specific duties in the event of an emergency, and it is important that you clearly understand these duties. Emergency equipment must be accessible and you should be trained to use any equipment that you might need. Formaldehyde contaminated equipment must be cleaned before reuse.

If a spill of appreciable quantity occurs, leave the area quickly unless you have specific emergency duties. Do not touch spilled material. Designated persons may stop the leak and shut off ignition sources if these procedures can be done without risk. Designated persons should isolate the hazard area and deny entry except for necessary people protected by suitable protective clothing and respirators adequate for the exposure. Use water spray to reduce vapors.

Do not smoke, and prohibit all flames or flares in the hazard area.

Special Firefighting Procedures: Learn procedures and responsibilities in the event of a fire in your workplace. Become familiar with the appropriate equipment and supplies and their location. In firefighting, withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire.

Spill, Leak, and Disposal Procedures

Occupational Spill: For small containers, place the leaking container in a well ventilated area. Take up small spills with absorbent material and place the waste into properly labeled containers for later disposal. For larger spills, dike the spill to minimize contamination and facilitate salvage or disposal. You may be able to neutralize the spill with sodium hydroxide or sodium sulfite. Your employer must comply with EPA rules regarding the clean-up of toxic waste and notify state and local authorities, if required. If the spill is greater than 1,000 lb/day, it is reportable under EPA's Superfund legislation.

Waste Disposal: Your employer must dispose of waste containing formaldehyde in accordance with applicable local, state, and Federal law and in a manner that minimizes exposure of employees at the site and of the clean-up crew.

Monitoring and Measurement Procedures

Monitoring Requirements: If your exposure to formaldehyde exceeds the 0.5 ppm action level or the 2 ppm STEL, your employer must monitor your exposure. Your employer need not measure every exposure if a "high exposure" employee can be identified. This person usually spends the greatest amount of time nearest the process equipment. If you are a "representative employee", you will be asked to wear a sampling device to collect formaldehyde. This device may be a passive badge, a sorbent tube attached to a pump, or an impinger containing liquid. You should perform your work as usual, but inform the person who is conducting the monitoring of any difficulties you are having wearing the device.

Evaluation of 8-hour Exposure: Measurements taken for the purpose of determining time-weighted average (TWA) exposures are best taken with samples covering the full shift. Samples collected must be taken from the employee's breathing zone air.

Short-term Exposure Evaluation: If there are tasks that involve brief but intense exposure to formaldehyde, employee exposure must be measured to assure compliance with the STEL. Sample collections are for brief periods, only 15 minutes, but several samples may be needed to identify the peak exposure.

Monitoring Techniques: OSHA's only requirement for selecting a method for sampling and analysis is that the methods used accurately evaluate the concentration of formaldehyde in employees' breathing zones. Sampling and analysis may be performed by collection of formaldehyde on liquid or solid sorbents with subsequent chemical analysis. Sampling and analysis may also be performed by passive diffusion monitors and short-term exposure may be measured by instruments such as real-time continuous monitoring systems and portable direct reading instruments.

Notification of Results: Your employer must inform you of the results of exposure monitoring representative of your job. You may be informed in writing, but posting the results where you have ready access to them constitutes compliance with the standard.

Protective Equipment and Clothing

[Material impervious to formaldehyde is needed if the employee handles formaldehyde solutions of 1% or more. Other employees may also require protective clothing or equipment to prevent dermatitis.]

Respiratory Protection: Use NIOSH-approved full facepiece negative pressure respirators equipped with approved cartridges or canisters within the use limitations of these devices. (Present restrictions on cartridges and canisters do not permit them to be used for a full workshift.) In all other situations, use positive pressure respirators such as the positive-pressure air purifying respirator or the self-contained breathing apparatus (SCBA). If you use a negative pressure respirator, your employer must provide you with fit testing of the respirator at least once a year in accordance with the procedures outlined in Appendix E.

Protective Gloves: Wear protective (impervious) gloves provided by your employer, at no cost, to prevent contact with formalin. Your employer should select these gloves based on the results of permeation testing and in accordance with the ACGIH Guidelines for Selection of Chemical Protective Clothing.

Eye Protection: If you might be splashed in the eyes with formalin, it is essential that you wear goggles or some other type of complete protection for the eye. You may also need a face shield if your face is likely to be splashed with formalin, but you must not substitute face shields for eye protection. (This section pertains to formaldehyde solutions of 1% or more.)

Other Protective Equipment: You must wear protective (impervious) clothing and equipment provided by your employer at no cost to prevent repeated or prolonged contact with formaldehyde liquids. If you are required to change into whole-body chemical protective clothing, your employer must provide a change room for your privacy and for storage of your normal clothing.

If you are splashed with formaldehyde, use the emergency showers and eyewash fountains provided by your employer immediately to prevent serious injury. Report the incident to your supervisor and obtain necessary medical support.

Entry Into an IDLH Atmosphere

Enter areas where the formaldehyde concentration might be 100 ppm or more only with complete body protection including a self-contained breathing apparatus with a full facepiece operated in a positive pressure mode or a supplied air respirator with full facepiece and operated in a positive pressure mode. This equipment is essential to protect your life and health under such extreme conditions.

Engineering Controls

Ventilation is the most widely applied engineering control method for reducing the concentration of airborne substances in the breathing zones of workers. There are two distinct types of ventilation.

Local Exhaust: Local exhaust ventilation is designed to capture airborne contaminants as near to the point of generation as possible. To protect you, the direction of contaminant flow must always be toward the local exhaust system inlet and away from you.

General (Mechanical): General dilution ventilation involves continuous introduction of fresh air into the workroom to mix with the contaminated air and lower your breathing zone concentration of formaldehyde. Effectiveness depends on the number of air changes per hour. Where devices emitting formaldehyde are spread out over a large area, general dilution ventilation may be the only practical method of control.

Work Practices: Work practices and administrative procedures are an important part of a control system. If you are asked to perform a task in a certain manner to limit your exposure to formaldehyde, it is extremely important that you follow these procedures.

Medical Surveillance

Medical surveillance helps to protect employees' health. You are encouraged strongly to participate in the medical surveillance program.

Your employer must make a medical surveillance program available at no expense to you and at a reasonable time and place if you are exposed to formaldehyde at concentrations above 0.5 ppm as an 8-hour average or 2 ppm over any 15-minute period. You will be offered medical surveillance at the time of your initial assignment and once a year afterward as long as your exposure is at least 0.5 ppm (TWA) or 2 ppm (STEL). Even if your exposure is below these levels, you should inform your employer if you have signs and symptoms that you suspect, through your training, are related to your formaldehyde exposure because you may need medical surveillance to determine if your health is being impaired by your exposure.

The surveillance plan includes:

(a) A medical disease questionnaire.

(b) A physical examination if the physician determines this is necessary.

If you are required to wear a respirator, your employer must offer you a physical examination and a pulmonary function test every year.

The physician must collect all information needed to determine if you are at increased risk from your exposure to formaldehyde. At the physician's discretion, the medical examination may include other tests, such as a chest x-ray, to make this determination.

After a medical examination the physician will provide your employer with a written opinion which includes any special protective measures recommended and any restrictions on your exposure. The physician must inform you of any medical conditions you have which would be aggravated by exposure to formaldehyde.

All records from your medical examinations, including disease surveys, must be retained at your employer's expense.

Emergencies

If you are exposed to formaldehyde in an emergency and develop signs or symptoms associated with acute toxicity from formaldehyde exposure, your employer must provide you with a medical examination as soon as possible. This medical examination will include all steps necessary to stabilize your health. You may be kept in the hospital for observation if your symptoms are severe to ensure that any delayed effects are recognized and treated.

Appendix B to § 1926.1148—Sampling Strategy and Analytical Methods for Formaldehyde

To protect the health of employees, exposure measurements must be unbiased and representative of employee exposure. The proper measurement of employee exposure requires more than a token commitment on the part of the employer. OSHA's mandatory requirements establish a baseline; under the best of circumstances all questions regarding employee exposure will be answered. Many employers, however, will wish to conduct more extensive monitoring before undertaking expensive commitments, such as engineering controls, to assure that the modifications are truly necessary. The following sampling strategy, which was developed at NIOSH by Nelson A. Leidel, Kenneth A. Busch, and Jeremiah R. Lynch and described in NIOSH publication No. 77–173 (Occupational Exposure Sampling Strategy Manual) will assist the employer in developing a strategy for determining the exposure of his or her employees.

There is no one correct way to determine employee exposure. Obviously, measuring the exposure of every employee exposed to formaldehyde will provide the most information on any given day. Where few employees are exposed, this may be a practical solution. For most employers, however, use of the following strategy will give just as much information at less cost.

Exposure data collected on a single day will not automatically guarantee the employer that his or her workplace is always in compliance with the formaldehyde standard. This does not imply, however, that it is impossible for an employer to be sure that his or her worksite is in compliance with the standard. Indeed, a properly designed sampling strategy showing that all employees are exposed below the PELs, at least with a 95 percent certainty, is compelling evidence that the exposure limits are being achieved provided that measurements are conducted using valid sampling strategy and approved analytical methods.

There are two PELs, the TWA concentration and the STEL. Most employers will find that one of these two limits is more critical in the control of their operations, and OSHA expects that the employer will concentrate monitoring efforts on the critical component. If the more difficult exposure is controlled, this information, along with calculations to support the assumptions, should be adequate to show that the other exposure limit is also being achieved.

Sampling Strategy

Determination of the Need for Exposure Measurements

The employer must determine whether employees may be exposed to concentrations in excess of the action level. This determination becomes the first step in an employee exposure monitoring program that minimizes employer sampling burdens while providing adequate employee protection. If employees may be exposed above the action level, the employer must measure exposure. Otherwise, an objective determination that employee exposure is low provides adequate evidence that exposure potential has been examined.

The employer should examine all available relevant information, *eg.* insurance company and trade association data and information from suppliers or exposure data collected from similar operations. The employer may also use previously-conducted sampling including area monitoring. The employer must make a determination relevant to each operation although this need not be on a separate piece of paper. If the employer can demonstrate conclusively that no employee is exposed above the action level or the STEL through the use of objective data, the employer need proceed no further on employee exposure monitoring until such time that conditions have changed and the determination is no longer valid.

If the employer cannot determine that employee exposure is less than the action level and the STEL, employee exposure monitoring will have to be conducted.

Workplace Material Survey

The primary purpose of a survey of raw material is to determine if formaldehyde is being used in the work environment and if so, the conditions under which formaldehyde is being used.

The first step is to tabulate all situations where formaldehyde is used in a manner such that it may be released into the workplace atmosphere or contaminate the skin. This information should be available through analysis of company records and information on the MSDSs available through provisions of this standard and the Hazard Communication standard.

If there is an indication from materials handling records and accompanying MSDSs that formaldehyde is being used in the following types of processes or work operations, there may be a potential for releasing formaldehyde into the workplace atmosphere:

(1) Any operation that involves grinding, sanding, sawing, cutting, crushing, screening, sieving, or any other manipulation of material that generates formaldehyde-bearing dust

(2) Any processes where there have been employee complaints or symptoms indicative of exposure to formaldehyde

(3) Any liquid or spray process involving formaldehyde

(4) Any process that uses formaldehyde in preserved tissue

(5) Any process that involves the heating of a formaldehyde-bearing resin.

Processes and work operations that use formaldehyde in these manners will probably require further investigation at the worksite to determine the extent of employee monitoring that should be conducted.

Workplace Observations

To this point, the only intention has been to provide an indication as to the existence of potentially exposed employees. With this information, a visit to the workplace is needed to observe work operations, to identify potential health hazards, and to determine whether any employees may be exposed to hazardous concentrations of formaldehyde.

In many circumstances, sources of formaldehyde can be identified through the sense of smell. However, this method of detection should be used with caution because of olfactory fatigue.

Employee location in relation to source of formaldehyde is important in determining if an employee may be significantly exposed to formaldehyde. In most instances, the closer a worker is to the source, the higher the probability that a significant exposure will occur.

Other characteristics should be considered. Certain high temperature operations give rise to higher evaporation rates. Locations of open doors and windows provide natural ventilation that tend to dilute formaldehyde emissions. General room ventilation also provides a measure of control.

Calculation of Potential Exposure Concentrations

By knowing the ventilation rate in a workplace and the quantity of formaldehyde generated, the employer may be able to determine by calculation if the PELs might be exceeded. To account for poor mixing of formaldehyde into the entire room, locations of fans and proximity of employees to the work operation, the employer must include a safety factor. If an employee is relatively close to a source, particularly if he or she is located downwind, a safety factor of 100 may be necessary. For other situations, a factor of 10 may be acceptable. If the employer can demonstrate through such calculations that employee exposure does not exceed the action level or the STEL, the employer may use this information as objective data to demonstrate compliance with the standard.

Sampling Strategy

Once the employer determines that there is a possibility of substantial employee exposure to formaldehyde, the employer is obligated to measure employee exposure.

The next step is selection of a maximum risk employee. When there are different processes where employees may be exposed to formaldehyde, a maximum risk employee should be selected for each work operation.

Selection of the maximum risk employee requires professional judgment. The best procedure for selecting the maximum risk employee is to observe employees and select the person closest to the source of formaldehyde. Employee mobility may affect this selection; *eg.* if the closest employee is mobile in his tasks, he may not be the maximum risk employee. Air movement patterns and differences in work habits will also affect selection of the maximum risk employee.

When many employees perform essentially the same task, a maximum risk employee cannot be selected. In this circumstance, it is necessary to resort to random sampling of the group of workers. The objective is to select a subgroup of adequate size so that there is a high probability that the random sample will contain at least one worker with high exposure if one exists. The number of persons in the group influences the number that need to be sampled to ensure that at least one individual from the highest 10 percent exposure group is contained in the sample. For example, to have 90 percent confidence in the results, if the group size is 10, nine should be sampled; for 50, only 18 need to be sampled.

If measurement shows exposure to formaldehyde at or above the action level or the STEL, the employer needs to identify all other employees who may be exposed at or above the action level or STEL and measure or otherwise accurately characterize the exposure of these employees.

Whether representative monitoring or random sampling are conducted, the purpose remains the same—to determine if the exposure of any employee is above the action level. If the exposure of the most exposed employee is less than the action level and the STEL, regardless of how the employee is identified, then it is reasonable to assume that measurements of exposure of the other employees in that operation would be below the action level and the STEL.

Exposure Measurements

There is no "best" measurement strategy for all situations. Some elements to consider in developing a strategy are:

(1) Availability and cost of sampling equipment

(2) Availability and cost of analytic facilities

(3) Availability and cost of personnel to take samples

(4) Location of employees and work operations

(5) Intraday and interday variations in the process

(6) Precision and accuracy of sampling and analytic methods, and

(7) Number of samples needed.

Samples taken for determining compliance with the STEL differ from those that measure the TWA concentration in important ways. STEL samples are best taken in a nonrandom fashion using all available knowledge relating to the area, the individual, and the process to obtain samples during periods of maximum expected concentrations. At least three measurements on a shift are generally needed to spot gross errors or mistakes; however, only the highest value represents the STEL.

If an operation remains constant throughout the workshift, a much greater number of samples would need to be taken over the 32 discrete nonoverlapping periods in an 8-hour workshift to verify compliance with a STEL. If employee exposure is truly uniform throughout the workshift, however, an employer in compliance with the 1 ppm TWA would be in compliance with the 2 ppm STEL, and this determination can probably be made using objective data.

Need to Repeat the Monitoring Strategy

Interday and intraday fluctuations in employee exposure are mostly influenced by the physical processes that generate formaldehyde and the work habits of the employee. Hence, in-plant process variations influence the employer's determination of whether or not additional controls need to be imposed. Measurements that employee exposure is low on a day that is not representative of worst conditions may not provide sufficient information to determine whether or not additional engineering controls should be installed to achieve the PELs.

The person responsible for conducting sampling must be aware of systematic changes which will negate the validity of the sampling results. Systematic changes in formaldehyde exposure concentration for an employee can occur due to:

(1) The employee changing patterns of movement in the workplace

(2) Closing of plant doors and windows

(3) Changes in ventilation from season to season

(4) Decreases in ventilation efficiency or abrupt failure of engineering control equipment

(5) Changes in the production process or work habits of the employee.

Any of these changes, if they may result in additional exposure that reaches the next level of action (*i.e.* 0.5 or 1.0 ppm as an 8-hr average or 2 ppm over 15 minutes) require the employer to perform additional monitoring to reassess employee exposure.

A number of methods are suitable for measuring employee exposure to formaldehyde or for characterizing emissions within the worksite. The preamble to this standard describes some methods that have been widely used or subjected to validation testing. A detailed analytical procedure derived from the OSHA Method 52 for acrolein and formaldehyde is presented below for informational purposes.

Inclusion of OSHA's method in this appendix in no way implies that it is the only acceptable way to measure employee exposure to formaldehyde. Other methods that are free from significant interferences and that can determine formaldehyde at the permissible exposure limits within ±25 percent of the "true" value at the 95 percent confidence level are also acceptable. Where applicable, the method shou1d a1so be capab1e of measuring formaldehyde at the action level to ±35 percent of the "true" value with a 95 percent confidence level. OSHA encourages emp1oyers to choose methods that will be best for their individual needs. The employer must exercise caution, however, in choosing an appropriate method since some techniques suffer from interferences that are likely to be present in workplaces of certain industry sectors where formaldehyde is used.

OSHA's Analytical Laboratory Method

Method No: 52
Matrix: Air
Target Concentration: 1 ppm (1.2 mg/m^3)
Procedures: Air samples are collected by drawing known volumes of air through sampling tubes containing XAD–2 adsorbent which have been coated with 2-(hydroxymethyl) piperidine. The samples are desorbed with toluene and then analyzed by gas chromatography using a nitrogen selective detector.
Recommended Sampling Rate and Air Volumes: 0.1 L/min and 24 L
Reliable Quantitation Limit: 16 ppb (20 µg/m^3)
Standard Error of Estimate at the Target Concentration: 7.3%
Status of the Method: A sampling and analytical method that has been subjected to the established evaluation procedures of the Organic Methods Evaluation Branch.
Date: March 1985

1. *General Discussion*

1.1 *Background:* The current OSHA method for collecting acrolein vapor recommends the use of activated 13X molecular sieves. The samples must be stored in an ice bath during and after sampling and also they must be analyzed within 48 hours of collection. The current OSHA method for collecting formaldehyde vapor recommends the use of bubblers containing 10% methanol in water as the trapping solution.

This work was undertaken to resolve the sample stability problems associated with acrolein and also to eliminate the need to use bubb1ers to sample formaldehyde. A goal of this work was to develop and/or to evaluate a common sampling and analytical procedure for acrolein and formaldehyde.

NIOSH has developed independent methodologies for acrolein and formaldehyde which recommend the use of reagent-coated adsorbent tubes to collect the aldehydes as stable derivatives. The formaldehyde sampling tubes contain Chromosorb 102 adsorbent coated with N-benzylethanolamine (BEA) which reacts with formaldehyde vapor to form a stable oxazolidine compound. The acrolein sampling tubes contain XAD–2 adsorbent coated with 2-(hydroxymethyl)piperidine (2–HMP) which reacts with acrolein vapor to form a different, stable oxazolidine derivative. Acrolein does not appear to react with BEA to give a suitable reaction product. Therefore, the formaldehyde procedure cannot provide a common method for both aldehydes. However, formaldehyde does react with 2–HMP to form a very suitable reaction product. It is the quantitative reaction of acrolein and formaldehyde with 2–HMP that provides the basis for this evaluation.

This sampling and analytical procedure is very similar to the method recommended by NIOSH for acrolein. Some changes in the NIOSH methodology were necessary to permit the simultaneous determination of both aldehydes and also to accommodate OSHA laboratory equipment and analytical techniques.

1.2 *Limit-defining parameters:* The analyte air concentrations reported in this method are based on the recommended air volume for each analyte collected separately and a desorption volume of 1 mL. The amounts are presented as acrolein and/or formaldehyde, even though the derivatives are the actual species analyzed.

1.2.1 *Detection limits of the analytical procedure:* The detection limit of the analytical procedure was 386 pg per injection

for formaldehyde. This was the amount of analyte which gave a peak whose height was about five times the height of the peak given by the residual formaldehyde derivative in a typical blank front section of the recommended sampling tube.

1.2.2 *Detection limits of the overall procedure:* The detection limits of the overall procedure were 482 ng per sample (16 ppb or 20 μg/m³ for formaldehyde). This was the amount of analyte spiked on the sampling device which allowed recoveries approximately equal to the detection limit of the analytical procedure.

1.2.3 *Reliable quantitation limits:* The reliable quantitation limit was 482 ng per sample (16 ppb or 20 μg/m³) for formaldehyde. These were the smallest amounts of analyte which could be quantitated within the limits of a recovery of at least 75% and a precision (±1.96 SD) of ±25% or better.

The reliable quantitation limit and detection limits reported in the method are based upon optimization of the instrument for the smallest possible amount of analyte. When the target concentration of an analyte is exceptionally higher than these limits, they may not be attainable at the routine operating parameters.

1.2.4 *Sensitivity:* The sensitivity of the analytical procedure over concentration ranges representing 0.4 to 2 times the target concentration, based on the recommended air volumes, was 7,589 area units per μg/mL for formaldehyde. This value was determined from the slope of the calibration curve. The sensitivity may vary with the particular instrument used in the analysis.

1.2.5 *Recovery:* The recovery of formaldehyde from samples used in an 18-day storage test remained above 92% when the samples were stored at ambient temperature. These values were determined from regression lines which were calculated from the storage data. The recovery of the analyte from the collection device must be at least 75% following storage.

1.2.6 *Precision (analytical method only):* The pooled coefficient of variation obtained from replicate determinations of analytical standards over the range of 0.4 to 2 times the target concentration was 0.0052 for formaldehyde (Section 4.3).

1.2.7 *Precision (overall procedure):* The precision at the 95% confidence level for the ambient temperature storage tests was ±14.3% for formaldehyde. These values each include an additional ±5% for sampling error. The overall procedure must provide results at the target concentrations that are ±25% at the 95% confidence level.

1.2.8 *Reproducibility:* Samples collected from controlled test atmospheres and a draft copy of this procedure were given to a chemist unassociated with this evaluation. The formaldehyde samples were analyzed following 15 days storage. The average recovery was 96.3% and the standard deviation was 1.7%.

1.3 *Advantages:*

1.3.1 The sampling and analytical procedures permit the simultaneous determination of acrolein and formaldehyde.

1.3.2 Samples are stable following storage at ambient temperature for at least 18 days.

1.4 *Disadvantages:* None.

2. *Sampling Procedure*

2.1 *Apparatus:*

2.1.1 Samples are collected by use of a personal sampling pump that can be calibrated to within ±5% of the recommended 0.1 L/min sampling rate with the sampling tube in line.

2.1.2 Samples are collected with laboratory prepared sampling tubes. The sampling tube is constructed of silane treated glass and is about 8-cm long. The ID is 4 mm and the OD is 6 mm. One end of the tube is tapered so that a glass wool end plug will hold the contents of the tube in place during sampling. The other end of the sampling tube is open to its full 4-mm ID to facilitate packing of the tube. Both ends of the tube are fire-polished for safety. The tube is packed with a 75-mg backup section, located nearest the tapered end and a 150-mg sampling section of pretreated XAD–2 adsorbent which has been coated with 2–HMP. The two sections of coated adsorbent are separated and retained with small plugs of silanized glass wool. Following packing, the sampling tubes are sealed with two 7/32 inch OD plastic end caps. Instructions for the pretreatment and the coating of XAD–2 adsorbent are presented in Section 4 of this method.

2.1.3 Sampling tubes, similar to those recommended in this method, are marketed by Supelco, Inc. These tubes were not available when this work was initiated; therefore, they were not evaluated.

2.2 *Reagents:* None required.

2.3 *Technique:*

2.3.1 Properly label the sampling tube before sampling and then remove the plastic end caps.

2.3.2 Attach the sampling tube to the pump using a section of flexible plastic tubing such that the large, front section of the sampling tube is exposed directly to the atmosphere. Do not place any tubing ahead of the sampling tube. The sampling tube should be attached in the worker's breathing zone in a vertical manner such that it does not impede work performance.

2.3.3 After sampling for the appropriate time, remove the sampling tube from the pump and then seal the tube with plastic end caps.

2.3.4 Include at least one blank for each sampling set. The blank should be handled in the same manner as the samples with the exception that air is not drawn through it.

2.3.5 List any potential interferences on the sample data sheet.

2.4 *Breakthrough:*

2.4.1 Breakthrough was defined as the relative amount of analyte found on a backup sample in relation to the total amount of analyte collected on the sampling train.

2.4.2 For formaldehyde collected from test atmospheres containing 6 times the PEL, the average 5% breakthrough air volume was 41 L. The sampling rate was 0.1 L/min and the average mass of formaldehyde collected was 250 μg.

2.5 *Desorption Efficiency:* No desorption efficiency corrections are necessary to compute air sample results because analytical standards are prepared using coated adsorbent. Desorption efficiencies were determined, however, to investigate the recoveries of the analytes from the sampling device. The average recovery over the range of 0.4 to 2 times the target concentration, based on the recommended air volumes, was 96.2% for formaldehyde. Desorption efficiencies were essentially constant over the ranges studied.

2.6 *Recommended Air Volume and Sampling Rate:*

2.6.1 The recommended air volume for formaldehyde is 24 L.

2.6.2 The recommended sampling rate is 0.1 L/min.

2.7 *Interferences:*

2.7.1 Any collected substance that is capable of reacting 2-HMP and thereby depleting the derivatizing agent is a potential interference. Chemicals which contain a carbonyl group, such as acetone, may be capable or reacting with 2-HMP.

2.7.2 There are no other known interferences to the sampling method.

2.8 *Safety Precautions:*

2.8.1 Attach the sampling equipment to the worker in such a manner that it well not interfere with work performance or safety.

2.8.2 Follow all safety practices that apply to the work area being sampled.

3. *Analytical Procedure*

3.1 *Apparatus:*

3.1.1 A gas chromatograph (GC), equipped with a nitrogen selective detector. A Hewlett-Packard Model 5840A GC fitted with a nitrogen-phosphorus flame ionization detector (NPD) was used for this evaluation. Injections were performed using a Hewlett-Packard Model 7671A automatic sampler.

3.1.2 A GC column capable of resolving the analytes from any interference. A 6 ft x ¼ in OD (2mm ID) glass GC column containing 10% UCON 50–HB–5100 + 2% KOH on 80/100 mesh Chromosorb W–AW was used for the evaluation. Injections were performed on-column.

3.1.3 Vials, glass 2-mL with Teflon-lined caps.

3.1.4 Volumetric flasks, pipets, and syringes for preparing standards, making dilutions, and performing injections.

3.2 *Reagents:*

3.2.1 Toluene and dimethylformamide. Burdick and Jackson solvents were used in this evaluation.

3.2.2 Helium, hydrogen, and air, GC grade.

3.2.3 Formaldehyde, 37%, by weight, in water. Aldrich Chemical, ACS Reagent Grade formaldehyde was used in this evaluation.

3.2.4 Amberlite XAD–2 adsorbent coated with 2-(hydroxymethyl—piperidine (2-HMP), 10% by weight (Section 4).

3.2.5 Desorbing solution with internal standard. This solution was prepared by adding 20 μL of dimethylformamide to 100 mL of toluene.

3.3 *Standard preparation:*

3.3.1 *Formaldehyde:* Prepare stock standards by diluting known volumes of 37% formaldehyde solution with methanol. A procedure to determine the formaldehyde content of these standards is presented in Section 4. A standard containing 7.7 mg/mL

formaldehyde was prepared by diluting 1 mL of the 37% reagent to 50 mL with methanol.

3.3.2 It is recommended that analytical standards be prepared about 16 hours before the air samples are to be analyzed in order to ensure the complete reaction of the analytes with 2–HMP. However, rate studies have shown the reaction to be greater than 95% complete after 4 hours. Therefore, one or two standards can be analyzed after this reduced time if sample results are outside the concentration range of the prepared standards.

3.3.3 Place 150-mg portions of coated XAD–2 adsorbent, from the same lot number as used to collect the air samples, into each of several glass 2-mL vials. Seal each vial with a Teflon-lined cap.

3.3.4 Prepare fresh analytical standards each day by injecting appropriate amounts of the diluted analyte directly onto 150-mg portions of coated adsorbent. It is permissible to inject both acrolein and formaldehyde on the same adsorbent portion. Allow the standards to stand at room temperature. A standard, approximately the target levels, was prepared by injecting 11 µL of the acrolein and 12 µL of the formaldehyde stock standards onto a single coated XAD–2 adsorbent portion.

3.3.5 Prepare a sufficient number of standards to generate the calibration curves. Analytical standard concentrations should bracket sample concentrations. Thus, if samples are not in the concentration range of the prepared standards, additional standards must be prepared to determine detector response.

3.3.7 Desorb the standards in the same manner as the samples following the 16-hour reaction time.

3.4 *Sample preparation:*

3.4.1 Transfer the 150-mg section of the sampling tube to a 2-mL vial. Place the 75-mg section in a separate vial. If the glass wool plugs contain a significant number of adsorbent beads, place them with the appropriate sampling tube section. Discard the glass wool plugs if they do not contain a significant number of adsorbent beads.

3.4.2 Add 1 mL of desorbing solution to each vial.

3.4.3 Seal the vials with Teflon-lined caps and then allow them to desorb for one hour. Shake the vials by hand with vigorous force several times during the desorption time.

3.4.4 Save the used sampling tubes to be cleaned and recycled.

3.5 *Analysis:*

3.5.1 GC *Conditions*

Column Temperature:

Bi-level temperature program—First level: 100 to 140 °C at 4 °C/min following completion of the first level.

Second level: 140 to 180 °C at 20 °C/min following completion of the first level.

Isothermal period: Hold column at 180 °C until the recorder pen returns to baseline (usually about 25 min after injection).

Injector temperature: 180 °C

Helium flow rate: 30 mL/min (detector response will be reduced if nitrogen is substituted for helium carrier gas).

Injection volume: 0.8 µL

GC column: Six-ft x ¼-in OD (2 mm ID) glass GC column containing 10% UCON 50–HB–5100 + 2% KOH on 80/100 Chromosorb W–AW.

NPD conditions:

Hydrogen flow rate: 3 mL/min

Air flow rate: 50 mL/min

Detector temperature: 275 °C

3.5.2 *Chromatogram:* For an example of a typical chromatogram, see Figure 4.11 in OSHA Method 52.

3.5.3 Use a suitable method, such as electronic integration, to measure detector response.

3.5.4 Use an internal standard method to prepare the calibration curve with several standard solutions of different concentrations. Prepare the calibration curve daily. Program the integrator to report results in µg/mL.

3.5.5 Bracket sample concentrations with standards.

3.6 *Interferences (Analytical)*

3.6.1 Any compound with the same general retention time as the analytes and which also gives a detector response is a potential interference. Possible interferences should be reported to the laboratory with submitted samples by the industrial hygienist.

3.6.2 GC parameters (temperature, column, etc.) may be changed to circumvent interferences.

3.6.3 A useful means of structure designation is GC/MS. It is recommended this procedure be used to confirm samples whenever possible.

3.6.4 The coated adsorbent usually contains a very small amount of residual formaldehyde derivative (Section 4.8).

3.7 *Calculations:*

3.7.1 Results are obtained by use of calibration curves. Calibration curves are prepared by plotting detector response against concentration for each standard. The best line through the data points is determined by curve fitting.

3.7.2 The concentration, in µg/mL, for a particular sample is determined by comparing its detector response to the calibration curve. If either of the analytes is found on the backup section, it is added to the amount found on the front section. Blank corrections should be performed before adding the results together.

3.7.3 The acrolein and/or formaldehyde air concentration can be expressed using the following equation:

$$mg/m^3 = (A)(B)/C$$

where A=µg/mL from 3.7.2, B=desorption volume, and C=L of air sampled.

No desorption efficiency corrections are required.

3.7.4 The following equation can be used to convert results in mg/m^3 to ppm.

$$ppm = (mg/m^3)(24.45)/MW$$

where mg/m^3=result from 3.7.3, 24.45=molar volume of an ideal gas at 760 mm Hg and 25 °C, MW=molecular weight (30.0).

4. *Backup Data*

4.1 Backup data on detection limits, reliable quantitation limits, sensitivity and precision of the analytical method, breakthrough, desorption efficiency, storage, reproducibility, and generation of test atmospheres are available in OSHA Method 52, developed by the Organics Methods Evaluation Branch, OSHA Analytical Laboratory, Salt Lake City, Utah.

4.2 *Procedure to Coat XAD–2 Adsorbent with 2–HMP:*

4.2.1 *Apparatus:* Soxhlet extraction apparatus, rotary evaporation apparatus, vacuum dessicator, 1–L vacuum flask, 1–L round-bottomed evaporative flask, 1–L Erlenmeyer flask, 250-mL Buchner funnel with a coarse fritted disc, etc.

4.2.2 *Reagents:*

4.2.2.1 Methanol, isooctane, and toluene.

4.2.2.2 2-(Hydroxymethyl)piperidine.

4.2.2.3 Amberlite XAD–2 non-ionic polymeric adsorbent, 20 to 60 mesh, Aldrich Chemical XAD–2 was used in this evaluation.

4.2.3 *Procedure:* Weigh 125 g of crude XAD–2 adsorbent into a 1–L Erlenmeyer flask. Add about 200 mL of water to the flask and then swirl the mixture to wash the adsorbent. Discard any adsorbent that floats to the top of the water and then filter the mixture using a fritted Buchner funnel. Air dry the adsorbent for 2 minutes. Transfer the adsorbent back to the Erlenmeyer flask and then add about 200 mL of methanol to the flask. Swirl and then filter the mixture as before. Transfer the washed adsorbent back to the Erlenmeyer flask and then add about 200 mL of methanol to the flask. Swirl and then filter the mixture as before. Transfer the washed adsorbent to a 1–L round-bottomed evaporative flask, add 13 g of 2–HMP and then 200 mL of methanol, swirl the mixture and then allow it to stand for one hour. Remove the methanol at about 40 °C and reduced pressure using a rotary evaporation apparatus. Transfer the coated adsorbent to a suitable container and store it in a vacuum desiccator at room temperature overnight. Transfer the coated adsorbent to a Soxhlet extractor and then extract the material with toluene for about 24 hours. Discard the contaminated toluene, add methanol in its place and then continue the Soxhlet extraction for an additional 4 hours. Transfer the adsorbent to a weighted 1–L round-bottom evaporative flask and remove the methanol using the rotary evaporation apparatus. Determine the weight of the adsorbent and then add an amount of 2-HMP, which is 10% by weight of the adsorbent. Add 200 mL of methanol and then swirl the mixture. Allow the mixture to stand for one hour. Remove the methanol by rotary evaporation. Transfer the coated adsorbent to a suitable container and store it in a vacuum desiccator until all traces of solvents are gone. Typically, this will take 2–3 days. The coated adsorbent should be protected from contamination. XAD–2 adsorbent treated in this manner will probably not contain residual acrolein derivative. However, this adsorbent will often contain residual formaldehyde derivative levels of about 0.1 µg per 150 mg of adsorbent. If the blank values for a batch of coated adsorbent are too high, then the batch should be returned to the Soxhlet extractor, extracted with toluene again and then recoated. This process can be repeated until the desired blank levels are attained.

The coated adsorbent is now ready to be packed into sampling tubes. The sampling tubes should be stored in a sealed container

to prevent contamination. Sampling tubes should be stored in the dark at room temperature. The sampling tubes should be segregated by coated adsorbent lot number. A sufficient amount of each lot number of coated adsorbent should be retained to prepare analytical standards for use with air samples from that lot number.

4.3 *A Procedure to Determine Formaldehyde by Acid Titration:* Standardize the 0.1 N HCl solution using sodium carbonate and methyl orange indicator.

Place 50 mL of 0.1 M sodium sulfite and three drops of thymophthalein indicator into a 250-mL Erlenmeyer flask. Titrate the contents of the flask to a colorless endpoint with 0.1 N HCl (usually one or two drops is sufficient). Transfer 10 mL of the formaldehyde/methanol solution (prepared in 3.3.1) into the same flask and titrate the mixture with 0.1 N HCl, again, to a colorless endpoint. The formaldehyde concentration of the standard may be calculated by the following equation:

$$\text{Formaldehyde, mg/mL} = \frac{\text{acid titer} \times \text{acid normality} \times 30.0}{\text{mL of sample}}$$

This method is based on the quantitative liberation of sodium hydroxide when formaldehyde reacts with sodium sulfite to form the formaldehyde-bisulfite addition product. The volume of sample may be varied depending on the formaldehyde content but the solution to be titrated must contain excess sodium sulfite. Formaldehyde solutions containing substantial amounts of acid or base must be neutralized before analysis.

Appendix C to § 1926.1148—Medical Surveillance—Formaldehyde

I. Health Hazards

The occupational health hazards of formaldehyde are primarily due to its toxic effects after inhalation, after direct contact with the skin or eyes by formaldehyde in liquid or vapor form, and after ingestion.

II. Toxicology

A. Acute Effects of Exposure

1. *Inhalation (breathing):* Formaldehyde is highly irritating to the upper airways. The concentration of formaldehyde that is immediately dangerous to life and health is 100 ppm. Concentrations above 50 ppm can cause severe pulmonary reactions within minutes. These include pulmonary edema, pneumonia, and bronchial irritation which can result in death. Concentrations above 5 ppm readily cause lower airway irritation characterized by cough, chest tightness and wheezing. There is some controversy regarding whether formaldehyde gas is a pulmonary sensitizer which can cause occupational asthma in a previously normal individual. Formaldehyde can produce symptoms of bronchial asthma in humans. The mechanism may be either sensitization of the individual by exposure to formaldehyde or direct irritation by formaldehyde in persons with pre-existing asthma. Upper airway irritation is the most common respiratory effect reported by workers and can occur over a wide range of concentrations, most frequently above 1 ppm. However, airway irritation has occurred in some workers with exposures to formaldehyde as low as 0.1 ppm. Symptoms of upper airway irritation include dry or sore throat, itching and burning sensations of the nose, and nasal congestion. Tolerance to this level of exposure may develop within 1–2 hours. This tolerance can permit workers remaining in an environment of gradually increasing formaldehyde concentrations to be unaware of their increasingly hazardous exposure.

2. *Eye contact:* Concentrations of formaldehyde between 0.05 ppm and 0.5 ppm produce a sensation of irritation in the eyes with burning, itching, redness, and tearing. Increased rate of blinking and eye closure generally protects the eye from damage at these low levels, but these protective mechanisms may interfere with some workers' work abilities. Tolerance can occur in workers continuously exposed to concentrations of formaldehyde in this range. Accidental splash injuries of human eyes to aqueous solutions of formaldehyde (formalin) have resulted in a wide range of ocular injuries including corneal opacities and blindness. The severity of the reactions have been directly dependent on the concentration of formaldehyde in solution and the amount of time lapsed before emergency and medical intervention.

3. *Skin contact:* Exposure to formaldehyde solutions can cause irritation of the skin and allergic contact dermatitis. These skin diseases and disorders can occur at levels well below those encountered by many formaldehyde workers. Symptoms include erythema, edema, and vesiculation or hives. Exposure to liquid formalin or formaldehyde vapor can provoke skin reactions in sensitized individuals even when airborne concentrations of formaldehyde are well below 1 ppm.

4. *Ingestion:* Ingestion of as little as 30 ml of a 37 percent solution of formaldehyde (formalin) can result in death. Gastrointestinal toxicity after ingestion is most severe in the stomach and results in symptoms which can include nausea, vomiting, and servere abdominal pain. Diverse damage to other organ systems including the liver, kidney, spleen, pancreas, brain, and central nervous systems can occur from the acute response to ingestion of formaldehyde.

B. Chronic Effects of Exposure

Long term exposure to formaldehyde has been shown to be associated with an increased risk of cancer of the nose and accessory sinuses, nasopharyngeal and oropharyngeal cancer, and lung cancer in humans. Animal experiments provide conclusive evidence of a causal relationship between nasal cancer in rats and formaldehyde exposure. Concordant evidence of carcinogenicity includes DNA binding, genotoxicity in short-term tests, and cytotoxic changes in the cells of the target organ suggesting both preneoplastic changes and a dose-rate effect. Formaldehyde is a complete carcinogen and appears to exert an effect on at least two stages of the carcinogenic process.

III. Surveillance considerations

A. History

1. *Medical and occupational history:* Along with its acute irritative effects, formaldehyde can cause allergic sensitization and cancer. One of the goals of the work history should be to elicit information on any prior or additional exposure to formaldehyde in either the occupational or the non-occupational setting.

2. *Respiratory history:* As noted above, formaldehyde has recognized properties as an airway irritant and has been reported by some authors as a cause of occupational asthma. In addition, formaldehyde has been associated with cancer of the entire respiratory system of humans. For these reasons, it is appropriate to include a comprehensive review of the respiratory system in the medical history. Components of this history might include questions regarding dyspnea on exertion, shortness of breath, chronic airway complaints, hyperreactive airway disease, rhinitis, bronchitis, bronchiolitis, asthma, emphysema, respiratory allergic reaction, or other preexisting pulmonary disease.

In addition, generalized airway hypersensitivity can result from exposures to a single sensitizing agent. The examiner should, therefore, elicit any prior history of exposure to pulmonary irritants, and any short- or long-term effects of that exposure.

Smoking is known to decrease mucociliary clearance of materials deposited during respiration in the nose and upper airways. This may increase a worker's exposure to inhaled materials such as formaldehyde vapor. In addition, smoking is a potential confounding factor in the investigation of any chronic respiratory disease, including cancer. For these reasons, a complete smoking history should be obtained.

3. *Skin Disorders:* Because of the dermal irritant and sensitizing effects of formaldehyde, a history of skin disorders should be obtained. Such a history might include the existence of skin irritation, previously documented skin sensitivity, and other dermatologic disorders. Previous exposure to formaldehyde and other dermal sensitizers should be recorded.

4. *History of atopic or allergic diseases:* Since formaldehyde can cause allergic sensitization of the skin and airways, it might be useful to identify individuals with prior

allergen sensitization. A history of atopic disease and allergies to formaldehyde or any other substances should also be obtained. It is not definitely known at this time whether atopic diseases and allergies to formaldehyde or any other substances should also be obtained. Also it is not definitely known at this time whether atopic individuals have a greater propensity to develop formaldehyde sensitivity than the general population, but identification of these individuals may be useful for ongoing surveillance.

5. *Use of disease questionnaires:* Comparison of the results from previous years with present results provides the best method for detecting a general deterioration in health when toxic signs and symptoms are measured subjectively. In this way recall bias does not affect the results of the analysis. Consequently, OSHA has determined that the findings of the medical and work histories should be kept in a standardized form for comparison of the year-to-year results.

B. Physical Examination

1. *Mucosa of eyes and airways:* Because of the irritant effects of formaldehyde, the examining physician should be alert to evidence of this irritation. A speculum examination of the nasal mucosa may be helpful in assessing possible irritation and cytotoxic changes, as may be indirect inspection of the posterior pharynx by mirror.

2. *Pulmonary system:* A conventional respiratory examination, including inspection of the thorax and auscultation and percussion of the lung fields should be performed as part of the periodic medical examination. Although routine pulmonary function testing is only required by the standard once every year for persons who are exposed over the TWA concentration limit, these tests have an obvious value in investigating possible respiratory dysfunction and should be used wherever deemed appropriate by the physician. In cases of alleged formaldehyde-induced airway disease, other possible causes of pulmonary disfunction (including exposures to other substances) should be ruled out. A chest radiograph may be useful in these circumstances. In cases of suspected airway hypersensitivity or allergy, it may be appropriate to use bronchial challenge testing with formaldehyde or methacholine to determine the nature of the disorder. Such testing should be performed by or under the supervision of a physician experienced in the procedures involved.

3. *Skin:* The physician should be alert to evidence of dermal irritation of sensitization, including reddening and inflammation, urticaria, blistering, scaling, formation of skin fissures, or other symptoms. Since the integrity of the skin barrier is compromised by other dermal diseases, the presence of such disease should be noted. Skin sensitivity testing carries with it some risk of inducing sensitivity, and therefore, skin testing for formaldehyde sensitivity should not be used as a routine screening test. Sensitivity testing may be indicated in the investigation of a suspected existing sensitivity. Guidelines for such testing have been prepared by the North American Contact Dermatitis Group.

C. Additional Examinations or Tests

The physician may deem it necessary to perform other medical examinations or tests as indicated. The standard provides a mechanism whereby these additional investigations are covered under the standard for occupational exposure to formaldehyde.

D. Emergencies

The examination of workers exposed in an emergency should be directed at the organ systems most likely to be affected. Much of the content of the examination will be similar to the periodic examination unless the patient has received a severe acute exposure requiring immediate attention to prevent serious consequences. If a severe overexposure requiring medical intervention or hospitalization has occurred, the physician must be alert to the possibility of delayed symptoms. Followup nonroutine examinations may be necessary to assure the patient's well-being.

E. Employer Obligations

The employer is required to provide the physician with the following information: A copy of this standard and appendices A, C, D, and E; a description of the affected employee's duties as they relate to his or her exposure concentration; an estimate of the employee's exposure including duration (*e.g.* 15 hr/wk, three 8-hour shifts, full-time); a description of any personal protective equipment, including respirators, used by the employee; and the results of any previous medical determinations for the affected employee related to formaldehyde exposure to the extent that this information is within the employer's control.

F. Physician's Obligations

The standard requires the employer to obtain a written statement from the physician. This statement must contain the physician's opinion as to whether the employee has any medical condition which would place him or her at increased risk of impaired health from exposure to formaldehyde or use of respirators, as appropriate. The physician must also state his opinion regarding any restrictions that should be placed on the employee's exposure to formaldehyde or upon the use of protective clothing or equipment such as respirators. If the employee wears a respirator as a result of his or her exposure to formaldehyde, the physician's opinion must also contain a statement regarding the suitability of the employee to wear the type of respirator assigned. Finally, the physician must inform the employer that the employee has been told the results of the medical examination and of any medical conditions which require further explanation or treatment. This written opinion is not to contain any information on specific findings or diagnoses unrelated to occupational exposure to formaldehyde.

The purpose in requiring the examining physician to supply the employer with a written opinion is to provide the employer with a medical basis to assist the employer in placing employees initially, in assuring that their health is not being inpaired by formaldehyde, and to assess the employee's ability to use any required protective equipment.

Appendix D to § 1926.1148—Nonmandatory Medical Disease Questionnaire

A. Identification

Plant Name———————

Date———————

Employee Name———————

S.S.———————

Job Title———————

Birthdate:———————

Age:———————

Sex:———————

Height:———————

Weight:———————

B. Medical History

1. Have you ever been in the hospital as a patient?
Yes ☐No ☐
If yes, what kind of problem were you having?———
_____

2. Have you ever had any kind of operation?
Yes ☐No ☐
If yes, what kind?———————
_____

3. Do you take any kind of medicine regularly?
Yes ☐No ☐
If yes, what kind?———————
_____

4. Are you allergic to any drugs, foods, or chemicals?
Yes ☐No ☐
If yes, what kind of allergy is it?————
_____
What causes the allergy?————————
_____

5. Have you ever been told that you have asthma, hayfever, or sinusitis?
Yes ☐No ☐

6. Have you ever been told that you have emphysema, bronchitis, or any other respiratory problems?
Yes ☐No ☐

7. Have you ever been told you had hepatitis?
Yes ☐No ☐

8. Have you ever been told that you had cirrhosis?
Yes ☐No ☐

9. Have you ever been told that you had cancer?
Yes ☐No ☐

10. Have you ever had arthritis or joint pain?
Yes ☐No ☐

11. Have you ever been told that you had high blood pressure?
Yes ☐No ☐

12. Have you ever had a heart attack or heart trouble?

Yes ☐No ☐

B–1. Medical History Update

1. Have you been in the hospital as a patient any time within the past year?
Yes ☐No ☐
If so, for what condition?———————

2. Have you been under the care of a physician during the past year?
Yes ☐No ☐
If so, for what condition?———————

3. Is there any change in your breathing since last year?
Yes ☐No ☐
Better?———————
Worse?———————
No change?———————
If change, do you know why?———————

4. Is your general health different this year from last year?
Yes ☐No ☐
If different, in what way?———————

5. Have you in the past year or are you now taking any medication on a regular basis?
Yes ☐No ☐
Name Rx———————
Condition being treated———————

C. Occupational History

1. How long have you worked for your present employer?

2. What jobs have you held with this employer? Include job title and length of time in each job.

3. In each of these jobs, how many hours a day were you exposed to chemicals?

4. What chemicals have you worked with most of the time?

5. Have you ever noticed any type of skin rash you feel was related to your work?
Yes ☐No ☐
6. Have you ever noticed that any kind of chemical makes you cough?
Yes ☐No ☐
Wheeze?
Yes ☐No ☐
Become short of breath or cause your chest to become tight?
Yes ☐No ☐
7. Are you exposed to any dust or chemicals at home?
Yes ☐No ☐
If yes, explain:———————

8. In other jobs, have you ever had exposure to:
Wood dust?
Yes ☐No ☐
Nickel or chromium?
Yes ☐No ☐
Silica (foundry, sand blasting)?
Yes ☐No ☐
Arsenic or asbestos?
Yes ☐No ☐
Organic solvents?
Yes ☐No ☐
Urethane foams?
Yes ☐No ☐

C–1. Occupational History Update

1. Are you working on the same job this year as you were last year?
Yes ☐No ☐
If not, how has your job changed?———————

2. What chemicals are you exposed to on your job?

3. How many hours a day are you exposed to chemicals?

4. Have you noticed any skin rash within the past year you feel was related to your work?
Yes ☐No ☐
If so, explain circumstances: ———————

5. Have you noticed that any chemical makes you cough, be short of breath, or wheeze?
Yes ☐No ☐
If so, can you identify it?———————

D. Miscellaneous

1. Do you smoke?
Yes ☐No ☐
If so, how much and for how long?———————

Pipe———————
Cigars———————
Cigarettes———————
2. Do you drink alcohol in any form?
Yes ☐No ☐
If so, how much, how long, and how often?
———————

3. Do you wear glasses or contact lenses?
Yes ☐No ☐
4. Do you get any physical exercise other than that required to do your job?
Yes ☐No ☐
If so, explain:———————

5. Do you have any hobbies or "side jobs" that require you to use chemicals, such as furniture stripping, sand blasting, insulation or manufacture of urethane foam, furniture, etc?
Yes ☐No ☐
If so, please describe, giving type of business or hobby, chemicals used and length of exposures.

E. Symptoms Questionnaire

1. Do you ever have any shortness of breath?
Yes ☐No ☐
If yes, do you have to rest after climbing several flights of stairs?
Yes ☐No ☐
If yes, if you walk on the level with people your own age, do you walk slower than they do?
Yes ☐No ☐
If yes, if you walk slower than a normal pace, do you have to limit the distance that you walk?
Yes ☐No ☐
If yes, do you have to stop and rest while bathing or dressing?
Yes ☐No ☐
2. Do you cough as much as three months out of the year?
Yes ☐No ☐
If yes, have you had this cough for more than two years?
Yes ☐No ☐
If yes, do you ever cough anything up from chest?
Yes ☐No ☐
3. Do you ever have a feeling of smothering, unable to take a deep breath, or tightness in your chest?
Yes ☐No ☐
If yes, do you notice that this on any particular day of the week?
Yes ☐No ☐
If yes, what day or the week?
Yes ☐No ☐
If yes, do you notice that this occurs at any particular place?
Yes ☐No ☐
If yes, do you notice that this is worse after you have returned to work after being off for several days?
Yes ☐No ☐
4. Have you ever noticed any wheezing in your chest?
Yes ☐No ☐
If yes, is this only with colds or other infections?
Yes ☐No ☐
Is this caused by exposure to any kind of dust or other material?
Yes ☐No ☐
If yes, what kind?———————
5. Have you noticed any burning, tearing, or redness of your eyes when you are at work?
Yes ☐No ☐
If so, explain circumstances:———————

6. Have you noticed any sore or burning throat or itchy or burning nose when you are at work?

Yes ☐No ☐

If so, explain circumstances: ———————

———————

7. Have you noticed any stuffiness or dryness of your nose?
Yes ☐No ☐
8. Do you ever have swelling of the eyelids or face?
Yes ☐No ☐
9. Have you ever been jaundiced?
Yes ☐No ☐
If yes, was this accompanied by any pain?
Yes ☐No ☐
10. Have you ever had a tendency to bruise easily or bleed excessively?
Yes ☐No ☐
11. Do you have frequent headaches that are not relieved by aspirin or tylenol?
Yes ☐No ☐
If yes, do they occur at any particular time of the day or week?
Yes ☐No ☐

If yes, when do they occur?———————

———————

12. Do you have frequent episodes of nervousness or irritability?
Yes ☐No ☐
13. Do you tend to have trouble concentrating or remembering?
Yes ☐No ☐
14. Do you ever feel dizzy, light-headed, excessively drowsy or like you have been drugged?
Yes ☐No ☐
15. Does your vision ever become blurred?
Yes ☐No ☐
16. Do you have numbness or tingling of the hands or feet or other parts of your body?
Yes ☐No ☐
17. Have you ever had chronic weakness or fatigue?
Yes ☐No ☐
18. Have you ever had any swelling of your feet or ankles to the point where you could not wear your shoes?
Yes ☐No ☐
19. Are you bothered by heartburn or indigestion?
Yes ☐No ☐
20. Do you ever have itching, dryness, or peeling and scaling of the hands?
Yes ☐No ☐
21. Do you ever have a burning sensation in the hands, or reddening of the skin?
Yes ☐No ☐
22. Do you ever have cracking or bleeding of the skin on your hands?
Yes ☐No ☐
23. Are you under a physician's care?
Yes ☐No ☐

If yes, for what are you being treated?———————

———————

24. Do you have any physical complaints today?
Yes ☐No ☐

If yes, explain?———————

———————

25. Do you have other health conditions not covered by these questions?
Yes ☐No ☐

If yes, explain: ———————

———————

Appendix E to § 1926.1148—Qualitative and Quantitative Fit Testing Procedures

I. FIT Test Protocols

Because exposure to formaldehyde can affect the employee's ability to detect common odorants, fit test results from the isoamyl acetate test must be augmented by results from either the saccharin or irritant smoke test.

A. The employer shall include the following provisions in the fit test procedures. These provisions apply to both qualitative fit testing (QLFT) and quantitative fit testing (QNFT).

1. The test subject shall be allowed to pick the most comfortable respirator from a selection including respirators of various sizes from different manufacturers. The selection shall include at least three sizes of elastomeric facepieces of the type of respirator that is to be tested, i.e., three sizes of half mask; or three sizes of full facepiece; and units from at least two manufacturers.

2. Prior to the selection process, the test subject shall be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine a comfortable fit. A mirror shall be available to assist the subject in evaluating the fit and positioning the respirator. This instruction may not constitute the subject's formal training on respirator use, as it is only a review.

3. The test subject shall be informed that he/she is being asked to select the respirator which provides the most comfortable fit. Each respirator represents a different size and shape, and if fitted and used properly, will provide adequate protection.

4. The test subject shall be instructed to hold each facepiece up to the face and eliminate those which obviously do not give a comfortable fit.

5. The more comfortable facepieces are noted; the most comfortable mask is donned and worn at least five minutes to assess comfort. Assistance in assessing comfort can be given by discussing the points in item 6 below. If the test subject is not familiar with using a particular respirator, the test subject shall be directed to don the mask several times and to adjust the straps each time to become adept at setting proper tension on the straps.

6. Assessment of comfort shall include reviewing the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:

(a) position of the mask on the nose.
(b) room for eye protection.
(c) room to talk.
(d) position of mask on face and cheeks.

7. The following criteria shall be used to help determine the adequacy of the respirator fit:

(a) chin properly placed;
(b) adequate strap tension, not overly tightened;
(c) fit across nose bridge;
(d) respirator of proper size to span distance from nose to chin;
(e) tendency of respirator to slip;
(f) self-observation in mirror to evaluate fit and respirator position.

8. The test subject shall conduct the negative and positive pressure fit checks as described below or ANSI Z88.2–1980. Before conducting the negative or positive pressure test, the subject shall be told to seat the mask on the face by moving the head from side-to-side and up and down slowly while taking in a few slow deep breaths. Another facepiece shall be selected and retested if the test subject fails the fit check tests.

(a) *Positive pressure test.* Close off the exhalation valve and exhale gently onto the facepiece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the facepiece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.

(b) *Negative pressure test.* Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the facepiece collapses slightly, and hold the breath for ten seconds. If the facepiece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.

9. The test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface, such as stubble beard growth, beard, or long sideburns which cross the respirator sealing surface. Any type of apparel which interferes with a satisfactory fit shall be altered or removed.

10. If a test subject exhibits difficulty in breathing during the tests, she or he shall be referred to a physician trained in respiratory disease or pulmonary medicine to determine whether the test subject can wear a respirator while performing her or his duties.

11. The test subject shall be given the opportunity to wear the successfully fitted respirator for a period of two weeks. If at any time during this period the respirator becomes uncomfortable, the test subject shall be given the opportunity to select a different facepiece and to be retested.

12. The employer shall certify that a successful fit test has been administered to the employee. The certification shall include the following information:

(a) Name of employee;
(b) Type, brand and size of respirator; and
(c) Date of test;

Where QNFT is used, the fit factor, strip chart, or other recording of the results of the test, shall be retained with the certification. The certification shall be maintained until the next fit test is administered.

13. Exercise regimen. Prior to the commencement of the fit test, the test subject shall be given a description of the fit test and the test subject's responsibilities during the test procedure.

The description of the process shall include a description of the test exercises that the subject will be performing. The respirator to be tested shall be worn for at least 5 minutes before the start of the fit test.

14. Test Exercises. The test subject shall perform exercises, in the test environment, in the manner described below:

(a) *Normal breathing.* In a normal standing position, without talking, the subject shall breathe normally.

(b) *Deep breathing.* In a normal standing position, the subject shall breathe slowly and deeply, taking caution so as to not hyperventilate.

(c) *Turning head side to side.* Standing in place, the subject shall slowly turn his/her head from side to side between the extreme positions on each side. The head shall be held at each extreme momentarily so the subject can inhale at each side.

(d) *Moving head up and down.* Standing in place, the subject shall slowly move his/her head up and down. The subject shall be instructed to inhale in the up position (i.e., when looking toward the ceiling).

(e) *Talking.* The subject shall talk out loud slowly and loud enough so as to be heard clearly by the test conductor. The subject can read from a prepared text such as the Rainbow Passage, count backward from 100, or recite a memorized poem or song.

(f) *Grimace.* The test subject shall grimace by smiling or frowning.

(g) *Bending over.* The test subject shall bend at the waist as if he/she were to touch his/her toes. Jogging in place shall be substituted for this exercise in those test environments such as shroud type QNFT units which prohibit bending at the waist.

(h) *Normal breathing.* Same as exercise 1.

Each test exercise shall be performed for one minute except for the grimace exercise which shall be performed for 15 seconds.

The test subject shall be questioned by the test conductor regarding the comfort of the respirator upon completion of the protocol. If it has become uncomfortable, another model of respirator shall be tried.

B. Qualitative Fit Test (QLFT) Protocols

1. *General.* (a) The employer shall assign specific individuals who shall assume full responsibility for implementing the respirator qualitative fit test program.

(b) The employer shall ensure that persons administering QLFT are able to prepare test solutions, calibrate equipment and perform tests properly, recognize invalid tests, and assure that tese equipment is in proper working order.

(c) The employer shall assure the QLFT equipment is kept clean and well maintained so as to operate at the parameters for which it was designed.

2. *Isoamyl Acetate Protocol*—(a) *Odor threshold screening.* The odor threshold screening test, performed without wearing a respirator, is intended to determine if the individual tested can detect the odor of isoamyl acetate.

(1) Three 1-liter glass jars with metal lids are required.

(2) Odor free water (e.g., distilled or spring water) at approximately 25 degrees C shall be used for the solutions.

(3) The isoamyl acetate (IAA) (also known at isopentyl acetate) stock solution is prepared by adding 1 cc of pure IAA to 800 cc of odor free water in a 1 liter jar and shaking for 30 seconds. A new solution shall be prepared at least weekly.

(4) The screening test shall be conducted in a room separate from the room used for actual fit testing. The two rooms shall be well ventilated but shall not be connected to the same recirculating ventilation system.

(5) The odor test solution is prepared in a second jar by placing 0.4 cc of the stock solution into 500 cc of odor free water using a clear dropper or pipette. The solution shall be shaken for 30 seconds and allowed to stand for two to three minutes so that the IAA concentration above the liquid may reach equilibrium. This solution shall be used for only one day.

(6) A test blank shall be prepared in a third jar by adding 500 cc of odor free water.

(7) The odor test and test blank jars shall be labeled 1 and 2 for jar identification. Labels shall be placed on the lids so they can be periodically peeled, dried off and switched to maintain the integrity of the test.

(8) The following instruction shall be typed on a card and placed on the table in front of the two jars (i.e., 1 and 2): "The purpose of this test is to determine if you can smell banana oil at a low concentration. The two bottles in front of you contain water. One of these bottles also contain a small amount of banana oil. Be sure the covers are on tight, then shake each bottle for two seconds. Unscrew the lid of each bottle, one at a time, and sniff at the mouth of the bottle. Indicate to the test conductor which bottle contains banana oil."

(9) The mixtures used in the IAA ordor detection test shall be prepared in an area separate from where the test is performed, in order to prevent olfactory fatigue in the subject.

(10) If the test subject is unable to correctly identify the jar containing the odor test solution, the IAA qualitative fit test shall not be performed.

(11) If the test subject correctly identifies the jar containing the odor test solution, the test subject may proceed to respirator selection and fit testing.

(b) *Isoamyl acetate fit test.* (1) The fit test chamber shall be similar to a clear 55-gallon drum liner suspended inverted over a 2-foot diameter frame so that the top of the chamber is about 6 inches above the test subject's head. The inside top center of the chamber shall have a small hook attached.

(2) Each respirator used for the fitting and fit testing shall be equipped with organic vapor cartridges or offer protection against organic vapors. The cartridges or masks shall be changed at least weekly.

(3) After selecting, donning, and properly adjusting a respirator, the test subject shall ware it to the fit testing room. This room shall be separate from the room used for odor threshold screening and respirator selection, and shall be well ventilated, as by an exhaust fan or lab hood, to prevent general room contamination.

(4) A copy of the test exercises and any prepared text from which the subject is to read shall be taped to the inside of the test chamber.

(5) Upon entering the test chamber, the test subject shall be given a 6-inch by 5-inch piece of paper towel, or other porous, absorbent, single-ply material, folded in half and wetted with 0.75 cc of pure IAA. The test subject shall hang the wet towel on the hook at the top of the chamber.

(6) Allow two minutes for the IAA test concentration to stabilize before starting the fit test exercises. This would be an appropriate time to talk with the test subject; to explain the fit test, the importance of his/her cooperation, and the purpose for the head exercises; or to demonstrate some of the exercises.

(7) If at any time during the test, the subject detects the banana like odor of IAA, the test has failed. The subject shall quickly exit from the test chamber and leave the test area to avoid olfactory fatigue.

(8) If the test has failed, the subject shall return to the selection room and remove the respirator, repeat the odor sensitivity test, select and put on another respirator, return to the test chamber and again begin the procedure described in (1) through (7) above. The process continues until a respirator that fits well has been found. Should the odor sensitivity test be failed, the subject shall wait about 5 minutes before retesting. Odor sensitivity will usually have returned by this time.

(9) When a respirator is found that passes the test, its efficiency shall be demonstrated for the subject by having the subject break the face seal and take a breath before exiting the chamber.

(10) When the test subject leaves the chamber, the subject shall remove the saturated towel and return it to the person conducting the test. To keep the test area from becoming contaminated, the used towels shall be kept in a self sealing bag so there is no significant IAA concentration build-up in the test chamber during subsequent tests.

3. *Saccharin Solution Aerosol Protocol.* The saccharin solution aerosol QLFT protocol is the only currently available, validated test protocol for use with particulate disposable dust respirators not equipped with high-efficiency filters. The entire screening and testing procedure shall be explained to the test subject prior to the conduct of the screening test.

(a) *Taste threshold screening.* The saccharin taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of saccharin.

(1) Threshold screening as well as fit testing subjects shall wear an enclosure about the head and shoulders that is approximately 12 inches in diameter by 14 inches tall with at least the front portion clear and that allows free movements of the head when a respirator is worn. An enclosure substantially similar to the 3M hood assembly, parts # FT 14 and # FT 15 combined, is adequate.

(2) The test enclosure shall have a ¾-inch hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.

(3) The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his/her wide open mouth with tongue extended.

(4) Using a DeVilbiss Model 40 Inhalation Medication Nebulizer the test conductor

shall spray the *threshold check solution* into the enclosure. This nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.

(5) The *threshold check solution* consists of 0.83 grams of sodium saccharin USP in 1 cc of warm water. It can be prepared by putting 1 cc of the fit test solution (see (b)(5) below) in 100 cc of distilled water.

(6) To produce the aerosol, the nebulizer bulb is firmly squeezed so that it collapses completely, then released and allowed to fully expand.

(7) Ten squeezes are repeated rapidly and then the test subject is asked whether the saccharin can be tasted.

(8) If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted.

(9) If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the saccharin is tasted.

(10) The test conductor will take note of the number of squeezes required to solicit a taste response.

(11) If the saccharin is not tasted after 30 squeezes (step 10), the test subject may not perform the saccharin fit test.

(12) If a taste response is elicited, the test subject shall be asked to take note of the taste for reference in the fit test.

(13) Correct use of the nebulizer means that approximately 1 cc of liquid is used at a time in the nebulizer body.

(14) The nebulizer shall be thoroughly rinsed in water, shaken dry, and refilled at least each morning and afternoon or at least every four hours.

(b) *Saccharin solution aerosol fit test procedure.* (1) The test subject may not eat, drink (except plain water), or chew gum for 15 minutes before the test.

(2) The fit test uses the same enclosure described in (a) above.

(3) The test subject shall don the enclosure while wearing the respirator selected in section (a) above. The respirator shall be properly adjusted and equipped with a particular filter(s).

(4) A second DeVilbiss Model 40 Inhalation Medication Nebulizer is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.

(5) The fit test solution is prepared by adding 83 grams of sodium saccharin to 100 cc of warm water.

(6) As before, the test subject shall breathe through the open mouth with tongue extended.

(7) The nebulizer is inserted into the hole in the front of the enclosure and the fit test solution is sprayed into the enclosure using the same number of squeezes required to elicit a taste response in the screening test.

(8) After generating the aerosol the test subject shall be instructed to perform the exercises in section I. A. 14 above.

(9) Every 30 seconds the aerosol concentration shall be replenished using one half the number of squeeezes as initially.

(10) The test subject shall indicate to the test conductor if any time during the fit test the taste of saccharin is detected.

(11) If the taste of saccharin is detected, the fit is deemed unsatisfactory and a different respirator shall be tried.

4. *Irritant Fume Protocol.* (a) The respirator to be tested shall be equipped with high-efficiency particulate air (HEPA) filters.

(b) The test subject shall be allowed to smell a weak concentration of the irritant smoke before the respirator is donned to become familiar with its characteristic odor.

(c) Break both ends of a ventilation smoke tube containing stannic oxychloride, such as the MSA part No. 5645, or equivalent. Attach one end of the smoke tube to a low flow air pump set to deliver 200 milliliters per minute.

(d) If a half-mask is being fitted, advise the test subject that the smoke can be irritating to the eyes and instruct the subject to keep his/her eyes closed while the test is performed.

(e) The test conductor shall direct the stream of irritant smoke from the smoke tube towards the face seal area of the test subject. He/She shall begin at least 12 inches from the facepiece and gradually move to within one inch, moving around the whole perimeter of the mask.

(f) The exercises identified in section I. A. 14 above shall be performed by the test subject while the respirator seal is being challenged by the smoke.

(g) Each test subject passing the smoke test without evidence of a response shall be given a sensitivity check of the smoke from the same tube once the respirator has been removed to determine whether he/she reacts to the smoke. Failure to evoke a response shall void the fit test.

(h) The fit test shall be performed in a location with exhaust ventilation sufficient to prevent general contamination of the testing area by the test agent.

C. Quantitative Fit Test (QNFT) Protocol

1. *General.* (a) The employer shall assign specific individuals who shall assume full responsibility for implementing the respirator quantitative fit test program.

(b) The employer shall ensure that persons administering QNFT are able to calibrate equipment and perform tests properly, recognize invalid tests, calculate fit factors properly and assure that test equipment is in proper working order.

(c) The employer shall assure that QNFT equipment is kept clean and well maintained so as to operate at the parameters for which it was designed.

2. *Definitions.* (a) Quantitative fit test. The test is performed in a test chamber. The normal air-purifying element of the respirator is replaced by a high-efficiency particulate air (HEPA) filter in the case of particulate QNFT aerosols or a sorbent offering contaminant penetration protection equivalent to high-efficiency filters where the QNFT test agency is a gas or vapor.

(b) Challenge agent means the aerosol, gas or vapor introduced into a test chamber so that its concentration inside and outside the respirator may be measured.

(c) Test subject means the person wearing the respirator for quantitative fit testing.

(d) Normal standing position means standing erect and straight with arms down along the sides and looking straight ahead.

(e) Maximum peak penetration method means the method of determing test agent penetration in the respirator as determined by strip chart recordings of the test. The highest peak penetration for a given exercise is taken to be representative of average penetration into the respirator for that exercise.

(f) Average peak penetration method means the method of determining test agent penetration into the respirator utilizing a strip chart recorder, integrator, or computer. The agent penetration is determined by an average of the peak heights on the graph or by computer integration, for each exercise except the grimace exercise. Integrators or computers which calculate the actual test agent penetration into the respirator for each exercise will also be considered to meet the requirements of the average peak penetration method.

(g) "Fit Factor" means the ratio of challenge agent concentration outside with respect to the inside of a respirator inlet covering (facepiece or enclosure).

3. *Apparatus.* (a) Instrumentation. Aerosol generation, dilution, and measurement systems using corn oil or sodium chloride as test aerosols shall be used for quantitiative fit testing.

(b) Test chamber. The test chamber shall be large enough to permit all test subjects to perform freely all required exercises without disturbing the challenge agent concentration or the measurement apparatus. The test chamber shall be equipped and constructed so that the challenge agent is effectively isolated from the ambient air, yet uniform in concentration throughout the chamber.

(c) When testing air-purifying respirators, the normal filter or cartridge element shall be replaced with a high-efficiency particulate filter supplied by the same manufacturer.

(d) The sampling instrument shall be selected so that a strip chart record may be made of the test showing the rise and fall of the challenge agent concentration with each inspiration and expiration at fit factors of at least 2,000. Integrators or computers which integrate the amount of test agent penetration leakage into the respirator for each exercise may be used provided a record of the readings is made.

(e) The combination of substitute air-purifying elements, challenge agent and challenge agent concentration in the test chamber shall be such that the test subject is not exposed in excess of an established exposure limit for the challenge agent at any time during the testing process.

(f) The sampling port on the test specimen respirator shall be placed and constructed so that no leakage occurs around the port (e.g., where the respirator is probed), a free air flow is allowed into the sampling line at all times and so that there is no interference with the fit or performance of the respirator.

(g) The test chamber and test set up shall permit the person administering the test to observe the test subject inside the chamber during the test.

(h) The equipment generating the challenge atmosphere shall maintain the concentration of challenge agent inside the test chamber constant to within a 10 percent variation for the duration of the test.

(i) The time lag (interval between an event and the recording of the event on the strip chart or computer or integrator) shall be kept to a minimum. There shall be a clear association between the occurrence of an event inside the test chamber and its being recorded.

(j) The sampling line tubing for the test chamber atmosphere and for the respirator sampling port shall be of equal diameter and of the same material. The length of the two lines shall be equal.

(k) The exhaust flow from the test chamber shall pass through a high-efficiency filter before release.

(l) When sodium chloride aerosol is used, the relative humidity inside the test chamber shall not exceed 50 percent.

(m) The limitations of instrument detection shall be taken into account when determining the fit factor.

(n) Test respirators shall be maintained in proper working order and inspected for deficiencies sush as cracks, missing valves and gaskets, etc.

4. *Procedural Requirements.* (a) When performing the initial positive or negative pressure test the sampling line shall be crimped closed in order to avoid air pressure leakage during either of these tests.

(b) An abbreviated screening isoamyl acetate test or irritant fume test may be utilized in order to quickly identify poor fitting respirators which passed the positive and/or negative pressure test and thus reduce the amount of QNFT time. When performing a screening isoamyl acetate test, combination high-efficiency organic vapor cartridges/canisters shall be used.

(c) A reasonably stable challenge agent concentration shall be measured in the test chamber prior to testing. For canopy or shower curtain type of test units the determination of the challenge agent stability may be established after the test subject has entered the test environment.

(d) Immediately after the subject enters the test chamber, the challenge agent concentration inside the respirator shall be measured to ensure that the peak penetration does not exceed 5 percent for a half mask or 1 percent for a full facepiece respirator.

(e) A stable challenge concentration shall be obtained prior to the actual start of testing.

(f) Respirator restraining straps shall not be overtightened for testing. The straps shall be adjusted by the wearer without assistance from other persons to give a reasonable comfortable fit typical of normal use.

(g) The test shall be terminated whenever any single peak penetration exceeds 5 percent for half masks and 1 percent for full facepiece respirators. The test subject shall be refitted and retested. If two of the three required tests are terminated, the fit shall be deemed inadequate.

(h) In order to successfully complete a QNFT, three successful fit tests are required. The results of each of the three independent fit tests must exceed the minimum fit factor needed for the class of respirator (e.g., half mask respirator, full facepiece respirator).

(i) Calculation of fit factors.

(1) The fit factor shall be determined for the quantitative fit test by taking the ratio of the average chamber concentration to the concentration inside the respirator.

(2) The average test chamber concentration is the arithmetic average of the test chamber concentration at the beginning and of the end of the test.

(3) The concentration of the challenge agent inside the respirator shall be determined by one of the following methods:

(i) Average peak concentration

(ii) Maximum peak concentration

(iii) Integration by calculation of the area under the individual peak for each exercise. This includes computerized integration.

(j) Interpretation of test results. The fit factor established by the quantitative fit testing shall be the lowest of the three fit factor values calculated from the three required fit tests.

(k) The test subject shall not be permitted to wear a half mask, or full facepiece respirator unless a minimum fit factor equivalent to at least 10 times the hazardous exposure level is obtained.

(l) Filters used for quantitative fit testing shall be replaced at least weekly, or whenever increased breathing resistance is encountered, or when the test agent has altered the integrity of the filter media. Organic vapor cartridges/canisters shall be replaced daily (when used) or sooner if there is any indication of breakthrough by a test agent.

A new Appendix A, entitled "Designations for General Industry Standards Incorporated Into Body of Construction Standards" is added to the end of part 1926. The text of the appendix reads as follows:

Appendix A to Part 1926—Designations for General Industry Standards Incorporated Into Body of Construction Standards

New Designations for General Industry Standards Incorporated Into Body of Construction Standards

1926 DESIGNATIONS FOR APPLICABLE 1910 STANDARDS

New § no. and/or para.	Source § no. and/or para.
1926.20 (c)	1910.5 (a)
[Do.] (d)	[Do.] (c)
[Do.] (e)	[Do.] (d)
1926.32(g)	1910.12(b)
1926.33	1910.20
1926.34 (a)	1910.36(b)(4)
[Do.] (b)	1910.37 (q)(1)
[Do.] (c)	[Do.] (k)(2)
1926.35	1910.38(a)
1926.50(g)	1910.151(c)
1926.51(a)(6)	1910.141(a)(2)(v)
[Do.] (d)(2)	[Do.] (h)
[Do.] (f) (2)—(4)	[Do.] (d) (1)—(3)
[Do.] (g)	[Do.] (g)(2)
[Do.] (h)	[Do.] (a)(5)
[Do.] (i)	[Do.] (e)
1926.53 (c)—(r)	1910.96
1926.57 (f)—(l)	1910.94
1926.64	1910.119
1926.65	1910.120
1926.66 (a)	1910.107 (a)
[Do.] (b)	[Do.] (b) (1)—(10)

1926 DESIGNATIONS FOR APPLICABLE 1910 STANDARDS—Continued

New § no. and/or para.	Source § no. and/or para.
[Do.] (c)—(d)	[Do.] (c)—(d)
[Do.] (e)—(g)	[Do.] (h)—(j)
1926.95	1910.132
1926.96	1910.136
1926.97 (a)—(e)	1910.156(e)
[Do.] (f)—(h)	[Do.] Subpt. I, App. E
1926.98	1910.156(f)
1926.102(a) (6)	1910.133(a) (2)
[Do.] (7)	[Do.] (4)
[Do.] (8)	[Do.] (5)
1926.103 (d)	1910.134 (a)
[Do.] (e)	[Do.] (b)
[Do.] (f)—(i)	[Do.] (d)—(g)
1926.150(c)(1) (xi)	1910.157 (g)(1)
[Do.] (xii)	[Do.] (g)(2)
[Do.] (xiii)	[Do.] (c)(4)
[Do.] (xiv)	[Do.] (e)(3)
1926.152 (b)(5)	1910.107(e)(2)
[Do.] (h)	1910.106(j)
[Do.] (i)	[Do.] (b)
[Do.] (j)	[Do.] (c)
[Do.] (k) (1)—(3)	[Do.] (g)(4)
[Do.] (k)(4)	[Do.] (a)(22)
1926.153(a) (3)	1910.110(a)(4)
[Do.] (m) (1)	[Do.] (d)(1)
[Do.] (2)	[Do.] (d)(2)
[Do.] (3)	[Do.] (d)(7)(vii)
[Do.] (4)	[Do.] (d)(7)(viii)
[Do.] (n)	[Do.] (b)(5)(iii)
[Do.] (o)	[Do.] (d)(10)
1926.156	1910.160
1926.157	1910.162
1926.158	1910.164
1926.159	1910.165
1926.200(c)(3)	1910.145(d)(4)
1926.250(c)	1910.176(c)
[Do.] (d)	XXX
1926.251(a)(5)	1910.184(a)
[Do.] (a)(6)	[Do.] (d)
[Do.] (b)(6)(i)—(ii)	[Do.] (e)(3)(i)—(ii)
[Do.] (c)(6)—(7)	[Do.] (c) (2)—(3)
[Do.] (c)(8)	[Do.] (c)(5)
[Do.] (c)(9)	[Do.] (c)(7)
[Do.] (c)(10)—(12)	[Do.] (c)(10)—(12)
[Do.] (c)(13)—(15)	[Do.](f) (2)—(4)
[Do.] (d)(3)—(6)	[Do.] (h) (2)—(5)
[Do.] (e)(3)—(5)	[Do.] (i) (2)—(4)
[Do.] (e)(6)—(7)	[Do.] (i) (6)—(7)
[Do.] (e)(8)	[Do.] (i)(9)
1926.300(b) (3)	1910.212(a)(1)
[Do.] (4)	[Do.] (a)(3)
[Do.] (5)	[Do.] (a)(5)
[Do.] (6)	[Do.] (b)
[Do.] (7)	1910.215(b)(9)
1926.302(b)(10)	1910.244(b)
1926.303(b)(2)	1910.215(a) (2)
[Do.] (e)	[Do.] (4)
1926.304 (g)	1910.213(h)(1)
[Do.] (h)	[Do.] (d)(1)
[Do.] (i)	[Do.] (c)(1)
1926.305(d)(1)	1910.244(a)(2) (iii)—(viii)
1926.306	1910.169
1926.307	1910.219
1926.350(a) (10)	1910.253(b) (4)(iii)
[Do.] (11)	[Do.] (2)(ii)
[Do.] (12)	1910.101(b)
1926,353(b)(3)	1910.252(b)(4)(iv)
1926.416 (a)(4)	1910.333(c)(2)

1926 DESIGNATIONS FOR APPLICABLE 1910 STANDARDS—Continued

New § no. and/or para.	Source § no. and/or para.
[Do.] (f) (1)	[Do.] (c)(10)
[Do.] (2)	1910.334(a)(1)
[Do.] (3)	[Do.] (a)(2)(iii)
[Do.] (4)	[Do.] (a)(5)
[Do.] (5)—(6)	[Do.] (b) (1)—(2)
[Do.] (7)—(10)	[Do.] (c) (1)—(3)
1926.417(d)	1910.333(b)(2)
1926.451(a) (22)	1910.28(a) (15)
[Do.] (23)	[Do.] (18)
[Do.] (24)	[Do.] (20)
1926.453 (a)	1910.29(a)
[Do.] (b)	[Do.] (c)
1926.550 (a)(19)	1910.184(c)(9)
1926.600(a)(7)	1910.176(f)
1926.602(c)(1) (vii)	1910.178(m) (3)
[Do.] (viii)	[Do.] (12)
1926.900 (s)	1910.109 (g)(2)(ii)
[Do.] (t)	[Do.] (h)(3)(ii)
1926.905(u)	[Do.] (e)(3)(iii)
1926.914(aa)	[Do.] (a)(12)
1926.1050(b)	1910.21(g)(9)
1926.1071	1910.401
1926.1072	1910.402
1926.1076	1910.410
1926.1080	1910.420
1926.1081	1910.421
1926.1082	1910.422
1926.1083	1910.423
1926.1084	1910.424
1926.1085	1910.425
1926.1086	1910.426
1926.1087	1910.427
1926.1090	1910.430
1926.1091	1910.440
1926.1092	1910.441
1926.1102	1910.1002
1926.1103	1910.1003
1926.1104	1910.1004
1926.1105	1910.1005
1926.1106	1910.1006
1926.1107	1910.1007
1926.1108	1910.1008
1926.1109	1910.1009
1926.1110	1910.1010
1926.1111	1910.1011
1926.1112	1910.1012
1926.1113	1910.1013
1926.1114	1910.1014
1926.1115	1910.1015
1926.1116	1910.1016
1926.1117	1910.1017
1926.1118	1910.1018
1926.1128	1910.1028
1926.1129	1910.1029
1926.1144	1910.1044
1926.1145	1910.1045
1926.1147	1910.1047
1926.1148	1910.1048

[FR Doc. 93–15063 Filed 6–29–93; 8:45 am]

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Occupational Safety and Health Administration

29 CFR Parts 1910 and 1926

Safety Standards for General Industry and Construction

AGENCY: Occupational Safety and Health Administration, Department of Labor.

ACTION: Final rule; technical amendments.

SUMMARY: The Occupational Safety and Health Administration (OSHA) is making nomenclature changes, address changes, and minor technical amendments to OSHA standards for construction and general industry. These changes reflect transfers of authority and editorial corrections to construction and general industry standards that have not undergone recent revision. For example, this document reflects the replacement of the Atomic Energy Commission by the Nuclear Regulatory Commission and the transfer of certain regulatory authority from the Internal Revenue Service to the Bureau of Alcohol, Tobacco and Firearms.

This document also corrects typographic errors in tables of decompression times for employees who work in compressed air environments. In addition, typographic errors in tables of rated capacities for different sizes, configurations, and types of wire rope and synthetic web slings are being corrected.

EFFECTIVE DATE: June 30, 1993.

FOR FURTHER INFORMATION CONTACT: Mr. James F. Foster, U.S. Department of Labor, Occupational Safety and Health Administration, room N–3647, 200 Constitution Avenue, NW., Washington, DC 20210; telephone: (202) 219–8151.

SUPPLEMENTARY INFORMATION:

Background

Section 6(a) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655) authorized the Secretary of Labor to adopt national consensus standards and established Federal standards issued under other statutes, including the Contract Work Hours and Safety Standards Act (the Construction Safety Act) (40 U.S.C. 333), as occupational safety and health standards. On May 29, 1971 (36 FR 10466), OSHA promulgated 29 CFR part 1910, Occupational Safety and Health Standards, to incorporate certain national consensus standards and established Federal standards for general industry. Subsequently, on December 30, 1971 (36 FR 25232), the Agency redesignated the existing standards in 29 CFR for ship repairing (part 1501), shipbuilding (part 1502), and shipbreaking (part 1503), and construction (part 1518) as 29 CFR parts 1915, 1916, 1917, and 1926, respectively. Parts 1910 and 1926 still contain various cross-references to the earlier versions of these standards which need to be updated to reflect their redesignations.

In addition, there have been changes regarding the Federal agencies and the consensus standard organizations whose standards were adopted by OSHA under section 6(a). In particular, there have been changes in the names of certain agencies and in the addresses of certain organizations. OSHA's existing standards do not fully reflect the above-noted developments. In addition, several standards either adopted under section 6(a) or promulgated under section 6(b) contain typographic errors. Therefore, the Agency has determined that this technical amendment is necessary to update and correct OSHA's safety and health standards as set forth below.

In particular, 29 CFR 1910.5(c)(1), which addresses the applicability of general industry standards, twice refers to a specific standard for ship repairing, once as 29 CFR 1501.23(c)(3) and then as 29 CFR 1915.23(c)(3). The second reference correctly reflects the 1971 redesignation of the ship repairing standards, while the first reference does not. However, neither reference correctly reflects the 1982 consolidation of the shipyard employment standards (47 FR 16985, April 20, 1982), under which the standard in question was redesignated as 29 CFR 1915.34(c)(3). OSHA is amending § 1910.5(c)(1) so that the provision correctly reflects the redesignation of the pertinent standard.

Also, this technical amendment clears up some other loose ends left over from the 1971 redesignation and from the subsequent consolidation of 29 CFR parts 1915, 1916, and 1917 into 29 CFR parts 1915, Shipyard Employment, published on April 20, 1982 (47 FR 16985). Existing §§ 1910.13 through 1910.15 reference either 29 CFR parts 1501, 1502, or 1503. In order to reconcile the General Industry standards to the above-noted redesignations and consolidations, OSHA is merging the provisions of existing §§ 1910.13, 1910.14, and 1910.15 into a single § 1910.15, "shipyard employment," and amending § 1910.15 so it refers to 29 CFR part 1915.

In addition, several standards are being revised so that they reflect the current addresses of the National Fire Protection Association, the Compressed Gas Association, and the American Petroleum Institute, as set out in lists of

standards organizations referenced in the regulatory text. The sections being amended to reflect the current address of these organizations include §§ 1910.40, 1910.100, 1910.109, 1910.116, 1910.171, 1910.190, and 1910.275, and appendixes B through D to subpart L.

OSHA's initial set of standards for general industry and construction, promulgated in 1971, included standards for ionizing radiation which referred to the Atomic Energy Commission (AEC). However, those references have been obsolete since 1974, when the Nuclear Regulatory Commission (NRC) assumed the role previously held by the AEC. This document amends the general industry and construction standards to reflect the above-noted transfer of authority. The pertinent sections are § 1910.96 (general industry) and § 1926.53 (construction).

In the general industry health and environmental control standard for ventilation, § 1910.94, paragraph (a)(5)(i) addresses the selection of personal protective equipment. That provision states that only approved equipment shall be used to protect personnel against dusts produced during abrasive-blasting operations and names the U.S. Department of the Interior, Bureau of Mines as the authority to approve respirators for such use. Additional references to respirator approval by the Bureau of Mines appear in paragraphs (c)(6)(vii)(*a*) and (d)(9)(vi) of that same section. Also, 29 CFR 1910.134(b)(11), which addresses the selection of respiratory protection, requires that approved or accepted respirators be used when they are available. That provision cites the U.S. Department of Agriculture and the U.S. Department of the Interior, Bureau of Mines, as authorities competent to set standards for respirators. Existing paragraph (b)(11) further states that, while pesticide respirators listed by the U.S. Department of Agriculture continue to be accepted for specified pesticides, the U.S. Department of the Interior, Bureau of Mines, is the agency now responsible for testing and approving pesticide respirators.

Pursuant to the Federal Mine Safety and Health Act of 1977 (30 U.S.C. 957), the respirator approval function once delegated to the Bureau of Mines (and for part of the 1970's, to the Mining Enforcement and Safety Administration) has been delegated to the Mine Safety and Health Administration (MSHA) and the National Institute for Occupational Safety and Health (NIOSH). The procedures and requirements to be met in obtaining NIOSH/MSHA approval for respirators are set out in 30 CFR part 11. Therefore, OSHA is amending § 1910.94 (a)(5)(ii), (c)(6)(vii)(*a*), and (d)(9)(vi) and § 1910.134(b)(11) to reflect the current requirements for the approval of respirators. Also, in the health standard for occupational exposure to vinyl chloride (29 CFR 1910.1017(g)(2)), there is a reference to the Mining Enforcement and Safety Administration (MESA), Department of the Interior. This outdated reference is being changed to reflect the transfer of authority for the approval of respirators from MESA to MSHA.

This document also corrects errors in OSHA's standard for slings used in general industry material handling (29 CFR 1910.184). These errors first appeared when the code volume containing 29 CFR part 1910 volume was reprinted in 1977 and 1981. The errors are numbers contained in tables that express rated capacities for particular types of wire rope and synthetic web slings (N–184–7, N–184–20, N–184–21, and N–184–22).

On June 27, 1975 (40 FR 27367), OSHA published a standard covering slings used in general industry material handling operations. In that standard (§ 1910.184), requirements for the use of alloy steel chain slings, wire rope slings, metal mesh slings, fiber rope and synthetic web slings were set out. The standard includes tables that indicate the maximum safe capacities for different sizes and configurations of the various types of slings covered by the standard.

The tables to § 1910.184 were printed correctly in part 1910 of the 1976 edition of the CFR volume. However, when the CFR volume was reprinted in 1977, typographic errors appeared in Table N–184–7 and Table N–184–20. In addition, when the part 1910 volume was printed in 1981, other errors appeared in Tables N–184–20, N–184–21, and N–184–22. This document amends the sling capacities listed in those tables to correct those errors.

In existing general industry standards that address toxic and hazardous substances (subpart Z), there are references to the Department of Health, Education, and Welfare (HEW). These appear in a section of the safety standards for diving (§ 1910.401(a)(2)(iii)) and in paragraph (b)(6) that is repeated in a number of OSHA health standards (§§ 1910.1003 though 1910.1018, 1910.1044 and 1910.1045). These outdated references are being changed to reflect the redesignation from HEW to the Department of Health and Human Services (HHS). Under the Department of Education Organization Act (Oct. 17, 1979, 20 U.S.C. 3411 and 3508), HEW was redesignated as HHS, effective May 4, 1980. (Functions pertaining to education were transferred to a newly created Department of Education.)

In addition, in the construction standards, OSHA is amending § 1926.451(y)(9) so that it refers to § 1926.1053, instead of to § 1926.450. On November 14, 1990 (55 FR 47687), the Agency deleted § 1926.450, "Ladders," replacing that section with new § 1926.1053, "Ladders." This change provides the correct reference for employers who have employees use ladders while performing construction work on pump jack scaffolds.

Also, OSHA is amending § 1926.451(y)(11), which addresses the provision of guardrails on pump jack scaffolds, to correct a typographic error, so that it refers to § 1926.451(a)(5) instead of § 1926.451(a)(15). This change provides the correct reference for employers who comply with § 1926.451(y)(11) by providing standard guardrails.

Elsewhere in the construction standards, under subpart S, "Underground Construction, Caissons, Cofferdams, and Compressed Air," § 1926.800 addresses certain underground operations for tunnels, shafts, chambers, and passageways. In paragraph (q)(8) of that section, which applies to drilling and jumbo decks, an error arose in the process of codifying the standard. The change corrects an inadvertent paragraph designation of (i) that falls between paragraph (iii) and precedes (v). The amendment redesignates that paragraph as (q)(8)(iv).

In another section of that same subpart, the standards cover employees who are exposed to compressed air working environments. Procedures for gradual decompression of employees working in these environments are set out in § 1926.803(f)(1), which in turn references decompression tables in appendix A to the subpart. The tables list conditions, according to working chamber pressure and exposure time, and give specified uniform rates and timed incremental stages for pressure-reduction for an employee's return to normal conditions.

In Decompression Table No. 2, for a working chamber pressure of 22 pounds per square inch gauge (p.s.i.g.), the number "133" is being inserted in the last column under the heading "Total time decompress minutes" for Stage number 2 for a working period of over 8 hours. In addition, in the same table, for a working chamber pressure of 50 p.s.i.g. and a working period of 5 hours, the entries in the fourth through eighth (last) columns are being shifted over one column to the left. (This amended

version corrects the entries to read that they are for Stage 1 and a pressure reduc. p.s.i.g. from 50 to 34, with a time in stage of 3 minutes, and a pressure reduc. rate of 0.20 min/pound). Under the same working chamber pressure of 50 p.s.i.g. for a working period of 5 hours, at Stage 3, the entry "1.42" for pressure reduc. rate min/pound in the next to last column is being changed to "11.42."

In the construction standards that cover blasting and the use of explosives (in subpart U of part 1926), there are several outdated references to regulations promulgated by other Federal agencies. The references to Internal Revenue Service (IRS) rules in the standard for storage of explosives and blasting agents (§ 1926.904) and the definitions applicable to the subpart (§ 1926.914) are being changed to reflect the redesignation and transfer of certain rules to the Bureau of Alcohol, Tobacco and Firearms. In addition, the standard for surface transportation of explosives (§ 1926.902) is being amended to reflect the removal, redesignation, or transfer of Department of Transportation rules in titles 14 and 49 of the CFR.

List of Subjects:

29 CFR Part 1910

Business and Industry, Hazardous Materials, Occupational Safety and Health, Scientific Equipment.

29 CFR Part 1926

Construction Industry, Occupational Safety and Health, Protective Equipment

Authority: This document was prepared under the direction of David C. Zeigler, Acting Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210.

Accordingly, pursuant to sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657), section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333) and Secretary of Labor's Order No. 1–90 (55 FR 9033), 29 CFR parts 1910 and 1926 are amended as set forth below.

Signed at Washington, DC, this 21st day of June, 1993.

David C. Zeigler,

Acting Assistant Secretary of Labor.

PART 1910—[AMENDED]

Subpart A—General

1. The authority for subpart A of part 1910 is revised to read as follows:

Authority: Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); sec. 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333); sec. 41, Longshore and Harbor Workers' Compensation Act (33 U.S.C. 941); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 1–90 (55 FR 9033) as applicable.

§ 1910.5 [Amended]

2. In the second sentence of § 1910.5(c)(1), the reference to "§ 1501.23(c)(3)" is revised to read "§ 1915.23(c)(3))."

Subpart B—Adoption and Extension of Established Federal Standards

3. The authority for subpart B is revised to read as follows:

Authority: Secs. 4, 6 and 8 of the Occupational Safety and Health Act, 29 U.S.C. 653, 655, 657; Walsh-Healey Act, 41 U.S.C. 35 et seq; Service Contract Act of 1965, 41 U.S.C. 351 et seq; sec. 107, Contract Work Hours and Safety Standards Acts (Construction Safety Act), 40 U.S.C. 333; sec. 41, Longshore and Harbor Workers' Compensation Act, 33 U.S.C. 941; National Foundation of Arts and Humanities Act, 20 U.S.C. 951 et seq.; Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 1911, 9–83 (48 FR 35736), or 1–90 (55 FR 9033) as applicable.

§§ 1910.13 and 1910.14 [Removed]

4. Sections §§ 1910.13 and 1910.14 are removed.

5. In § 1910.15 is revised to read as follows:

§ 1910.15 Shipyard employment.

(a) *Adoption and extension of established safety and health standards for shipyard employment.* The standards prescribed by part 1915 (formerly parts 1501–1503) of this title and in effect on April 28, 1971 (as revised), are adopted as occupational safety or health standards under section 6(a) of the Act and shall apply, according to the provisions thereof, to every employment and place of employment of every employee engaged in ship repair, shipbreaking, and shipbuilding, or a related employment. Each employer shall protect the employment and places of employment of each of his employees engaged in ship repair, shipbreaking, and shipbuilding, or a related employment, by complying with the appropriate standards prescribed by this paragraph.

(b) *Definitions.* For purposes of this section:

(1) *Ship repair* means any repair of a vessel, including, but not restricted to, alterations, conversions, installations, cleaning, painting, and maintenance work;

(2) *Shipbreaking* means any breaking down of a vessel's structure for the purpose of scrapping the vessel, including the removal of gear, equipment, or any component of a vessel;

(3) *Shipbuilding* means the construction of a vessel, including the installation of machinery and equipment;

(4) *Related employment* means any employment performed as an incident to, or in conjunction with, ship repair, shipbreaking, and shipbuilding work, including, but not restricted to, inspection, testing, and employment as a watchman; and

(5) *Vessel* includes every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water, including special purpose floating structures not primarily designed for, or used as a means of, transportation on water.

Subpart E—Means of Egress

6. The authority for subpart E is revised to read as follows:

Authority: Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 1–90 (55 FR 9033), as applicable.

§ 1910.40 [Amended]

7. In § 1910.40, the address for the National Fire Protection Association is revised to read "Batterymarch Park, Quincy, MA 02269."

Subpart G—Occupational Health and Environmental Control

8. The authority for subpart G continues to read as follows:

Authority: Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 1–90 (55 FR 9033), as applicable.

§ 1910.94 [Amended]

9. In § 1910.94 (a)(5)(i) and (c)(6)(iii)(*a*), the phrase "approved by the Bureau of Mines, U.S. Department of the Interior" is revised to read "approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health."

9A. In § 1910.94(d)(9)(vi), the phrase "approved by the U.S. Bureau of Mines, U.S. Department of the Interior" is revised to read "approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health."

§ 1910.96 [Amended]

10. In § 1910.96 (i)(1), (k), (l)(1) introductory text, (l)(2) introductory text, (m)(1), (p) heading, (p)(1), (p)(2), and (p)(3) (i) and (ii), the term "Atomic Energy Commission" is revised to read "Nuclear Regulatory Commission."

11. In § 1910.96 (p) heading, (p)(2), and (p)(3) introductory text, the acronym "AEC" is revised to read "NRC."

12. In the same section (§ 1910.96), in paragraph (a)(7)(v) of the cross-reference to "subdivision (iii) of this subparagraph" is revised to read "paragraph (a)(7)(iii) of this section."

§ 1910.100 [Amended]

13. In § 1910.100, the address for the National Fire Protection Association is revised to read "Batterymarch Park, Quincy, MA 02269."

Subpart H—Hazardous Materials

14. The authority for subpart H continues to read as follows:

Authority: Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 1–90 (55 FR 9033), as applicable.

§ 1910.103 [Amended]

15. In paragraph (c)(2)(iii)(*i*) of § 1910.103, the cross-reference to "subparagraph (i)(iv)(*b*) of this paragraph and subdivision (i)(f) of this subparagraph" is changed to read "paragraphs (c)(1)(iv)(*b*) and (c)(2)(i)(*f*) of this section."

16. In paragraph (c)(3)(i)(*c*) of § 1910.103, the cross-reference to "subdivision (*a*) of this subdivision" is revised to read "paragraph (c)(3)(i)(*a*) of this section."

17. In paragraph (c)(3)(i)(*d*) of § 1910.103, the cross-reference to "subparagraph (1)(ix) (*a*) and (*b*) of this paragraph" is revised to read "paragraph (c)(1)(ix) (*a*) and (*b*) of this section."

18. In paragraph (c)(3)(ii)(*d*) of § 1910.103, the cross-reference to "subparagraph (1)(ix) (*a*) and (*b*) of this paragraph" is revised to read "paragraphs (c)(1)(ix) (*a*) and (*b*) of this section," and the cross-reference to "subparagraph (1)(ix)(*b*) of this paragraph" is revised to read "paragraph (c)(1)(ix)(*b*) of this section."

19. In paragraph (c)(3)(iii)(*b*) of § 1910.103, the cross-reference to "subdivision (ii)(*b*) of this subparagraph" is revised to read "paragraph (c)(3)(ii)(*b*) of this section."

20. In paragraph (c)(3)(iii)(*e*) of § 1910.103, the cross-reference to "subparagraph (1)(ix) (*a*) and (*b*) of this paragraph" is revised to read "paragraphs (c)(1)(ix) (*a*) and (*b*) of this section," and the cross-reference to "subparagraph (1)(ix)(*b*) of this paragraph" is revised to read "paragraph (c)(1)(ix)(*b*) of this section."

§ 1910.109 [Amended]

21. In § 1910.109, entitled "Explosives and blasting agents," paragraph (i)(1)(ii)(*b*), the address for the Compressed Gas Association, Inc., is revised to read "1235 Jefferson Davis Highway, Arlington, VA 22202."

§ 1910.110 [Amended]

22. In the last sentence of paragraph (b)(10)(i) of § 1910.110, the cross-reference to "subdivision (ii) of this subparagraph or subdivision (iii) of this subparagraph" is revised to read "paragraph (b)(10)(ii) or (b)(10)(iii) of this section."

§ 1910.116 [Amended]

23. In § 1910.116, the address for the Compressed Gas Association, Inc., is revised to read "1235 Jefferson Davis Highway, Arlington, VA 22202." In addition, the address for the American Petroleum Institute, Inc., is revised to read "1220 L Street NW., Washington, DC 20005," and the address for the National Fire Protection Association is changed to read "Batterymarch Park, Quincy, MA 02269."

Subpart I—Personal Protective Equipment

24. The authority for subpart I is revised to read as follows:

Authority: Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 1–90 (55 FR 9033), as applicable.

25. In § 1910.134, paragraph (b)(11) is revised to read as follows:

§ 1910.134 [Amended]

* * * * *

(b) * * *

* * * * *

(11) Respirators shall be selected from among those jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health under the provisions of 30 CFR part 11.

* * * * *

Subpart L—Fire Protection

26. The authority for subpart L is revised to read as follows:

Authority: Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 1–90 (55 FR 9033) as applicable.

Subpart L—[Amended]

27. In Appendix B to Subpart L—National Consensus Standards, the address for the National Fire Protection Association that appears as the first footnote at the end of the table is revised to read "Batterymarch Park, Quincy, MA 02269.

28. In appendix C to subpart L, under II., B., (regarding references applicable to § 1910.157), the address for the Compressed Gas Association, Inc., is revised to read "1235 Jefferson Davis Highway, Arlington, VA 22202" in the items numbered 2. through 4. In addition, the address for the National Fire Protection Association is revised to read "Batterymarch Park, Quincy, MA 02269" wherever it appears.

29. In appendix D to subpart L (regarding the availability of publications incorporated by reference in § 1910.156, fire brigades), the address for the National Fire Protection Association that appears in the third column of the first entry of the table is revised to read "Batterymarch Park, Quincy, MA 02269."

Subpart M—Compressed Gas and Compressed Air Equipment

30. The authority for subpart M is revised to read as follows:

Authority: Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 1–90 (55 FR 9033), as applicable.

§ 1910.171 [Amended]

31. In § 1910.171, the address for the Compressed Gas Association, Inc., is revised to read "1235 Jefferson Davis Highway, Arlington, VA 22202," and the address for the National Fire Protection Association is revised to read "Batterymarch Park, Quincy, MA 02269."

Subpart N—Materials Handling and Storage

32. The authority for subpart N continues to read as follows:

Authority: Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 1–90 (55 FR 9033), as applicable.

§ 1910.184 [Amended]

33. In § 1910.184(f)(4)(ii), Table N–184–7, Rated Capacities for 2-Leg and 3-

Leg Bridle Slings, 6x19 and 6x37 Classification Improved Plow Steel Grade Rope with Fiber Core [FC], the value for 1 5/8 inch, 6 x 37 mechanically spliced improved plow steel 2 leg bridle, wire rope slings with fiber cores which presently reads "32.Oh" is revised to read "32.0".

34. In § 1910.184(i)(6)(iii), Table N–184–20, the rated capacities for triangle-choker slings, type I; triangle-triangle slings, type II; Eye and eye with flat eye slings, type III; and eye and eye with twisted eye slings, type IV, when used in 45 and 60 basket hitches are revised as indicated below:

TABLE N–184–20.—SYNTHETIC WEB SLINGS—1,000 Pounds per Inch of Width—Single-Ply

[Triangle-choker slings, Type I; Triangle-triangle slings, Type II, Eye and Eye with flat eye slings, Type III, Eye and Eye with twisted eye slings, Type IV]

Sling body width, in.	45 basket		60 Basket	
	Remove	Add	Remove	Add
1	81,400	1,400	91,000	1,000
2	82,800	2,800	92,000	2,000
3	84,200	4,200	93,000	3,000
4	85,700	5,700	94,000	4,000
5	87,100	7,100	95,000	5,000
6	88,500	8,500	96,000	6,000

35. In § 1910.184(i)(6)(iii), Table N–184–20, the rated capacity for 2-inch endless slings, type V, used in a vertical hitch is corrected from 3,2000 to 3,200.

36. In § 1910.184(i)(6)(iii), Table N–184–21, the rated capacities for triangle-choker slings, type I; triangle-triangle slings, type II; Eye and eye with flat eye slings, type III; and eye and eye with twisted eye slings, type IV, when used in 45 and 60 basket hitches are revised as indicated below:

TABLE N–184–21.—SYNTHETIC WEB SLINGS—1,200 POUNDS PER INCH OF WIDTH—SINGLE-PLY

[Triangle-choker slings, Type I; Triangle-triangle slings, Type II, Eye and Eye with flat eye slings, Type III, Eye and eye with twisted eye slings, Type IV]

Sling body width, in.	45 basket		60 Basket	
	Remove	Add	Remove	Add
1	81,700	1,700	91,200	1,200
2	83,400	3,400	92,400	2,400
3	85,100	5,100	93,600	3,600
4	86,800	6,800	94,800	4,800
5	88,500	8,500	96,000	6,000
6	810,200	10,200	97,200	7,200

37. In § 1910.184(i)(6)(iii), Table N–184–21, the rated capacity for 6-inch return eye slings, type VI, used in a 30 basket is revised from 10;,000 to 10,000.

38. In § 1910.184(i)(6)(iii), Table N–184–21, the rated capacity for a 5-inch return eye sling, type VI, used in a 45 basket, is revised from 76,750 to 6,750.

39. In § 1910.184(i)(6)(iii), Table N–184–22, the rated capacities for triangle-choker slings, type I; Eye and eye with flat eye slings, type II; eye and eye with flat eye slings, Type III; and eye and eye with twisted eye slings, type IV, when used in 45 and 60 basket hitches are revised as indicated below:

TABLE N–184–22.—SYNTHETIC WEB SLINGS—1,600 POUNDS PER INCH OF WIDTH—SINGLE-PLY

[Triangle-choker slings, Type I; Triangle-triangle slings, Type II; Eye and Eye with flat eye slings, Type III; Eye and eye with twisted eye slings, Type IV]

Sling body width, in.	45 basket		60 Basket	
	Remove	Add	Remove	Add
1	82,300	2,300	91,600	1,600
2	84,500	4,500	93,200	3,200
3	86,800	6,800	94,800	4,800
4	89,000	9,000	96,400	6,400
5	811,300	11,300	98,000	8,000
6	813,600	13,600	99,600	9,600

§ 1910.190 [Amended]

40. In § 1910.190, the address for the National Fire Protection Association is revised to read "Batterymarch Park, Quincy, MA 02269."

Subpart R—Special Industries

41. The authority for subpart R continues to read as follows:

Authority: Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 1–90 (55 FR 9033), as applicable.

§ 1910.275 [Amended]

42. In § 1910.275, the address for the National Fire Protection Association is revised to read "Batterymarch Park, Quincy, MA 02269."

Subpart T—Commercial Diving Operations

43. The authority for subpart T is revised to read as follows:

Authority: Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, and 657); sec. 107, Contract Work Hours and Safety Standards Act (the Construction Safety Act) (40 U.S.C. 333); sec. 41, Longshore and Harbor Workers' Compensation Act (33 U.S.C. 941); Secretary of Labor's Order No. 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 1–90 (55 FR 9033), as applicable; 29 CFR part 1911.

§ 1910.401 [Amended]

44. In § 1910.401(a)(2)(iii), the term "Department of Health, Education, and Welfare" is revised to read "Department of Health and Human Services."

Subpart Z—Toxic and Hazardous Substances

45. The authority for subpart Z continues to read in pertinent part as follows:

Authority: Sections 6 and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655 and 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 1–90 (55 FR 9033), as applicable.

§§ 1910.1003, 1910.1004, 1910.1006–1910.1018, 1910.1044, and 1910.1045 [Amended]

46. In paragraph (b)(6) of §§ 1910.1003, 1910.1004, 1910.1006 through 1910.1016, in paragraph (b)(4) of 1910.1017, in the definition for "Director" of 1910.1018 and 1910.1044, and in the definition for "Decontamination" in 1910.1045, the term "Health, Education, and Welfare" and acronym "HEW" are revised to read "Health and Human Services" and "HHS," respectively, each time the term or acronym appears.

46A. In addition, in § 1910.1017(g)(2), the words "approved by the Mining Enforcement and Safety Administration, Department of the Interior" are revised to read "approved by the Mine Safety and Health Administration."

PART 1926—[AMENDED]

1. The authorities for subparts D, L, S, and U are revised to read as follows:

Authority: Sec. 107, Contract Work Hours and Safety Standards Act (40 U.S.C. 333); secs. 4, 6, and 8, Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), or 1–90 (55 FR 9033), as applicable.

Subpart D—Occupational Health and Environmental Controls

§ 1926.53 [Amended]

2. In paragraphs (a) and (b) of § 1926.53, replace the term "Atomic Energy Commission" with "Nuclear Regulatory Commission" each time it appears.

Subpart L—Scaffolding

§ 1926.451 [Amended]

3. In paragraph (y)(9) of § 1926.451, the reference to "in accordance with

§ 1926.450" is revised to read "in accordance with § 1926.1053." In addition, in § 1926.451(y)(11), the reference to "as defined in § 1926.451(a)(15)" is revised to read "as defined in § 1926.451(a)(5)."

Subpart S—Underground Construction, Caissons, Cofferdams, and Compressed Air

§ 1926.800 [Amended]

4. In § 1926.800(q)(8), the paragraph designated (i) that follows paragraph (iii) and precedes (v) is redesignated as (iv).

Appendix A to Subpart S—[Amended]

5. In part 1926, in Appendix A to Subpart S—Decompression Tables, Decompression Table No. 2, is amended by inserting "133" in the last column (under Total time decompress minutes) for Stage no. 2, a working period of over, 8 hours, and a working chamber pressure of 22 p.s.i.g.

5A. In addition, in the same table, the entries in the fourth through eighth columns at a working chamber pressure of 50 p.s.i.g. for a working period of 5 hours, are each moved over one column to the left, so the entry now reads for Stage no. 1, with a pressure reduc. p.s.i.g. from 50 to 34, a time of 3 minutes in stage, and a pressure reduc. rate of 0.20 min./pound. Under the same working chamber pressure of 50 p.s.i.g. for a working period of 5 hours, at Stage no. 3, the entry "1.42" for pressure reduc. rate min/pound in the next to last column is revised to "11.42".

Subpart U—Blasting and the Use of Explosives

§ 1926.902 [Amended]

6. In paragraph (a) of § 1926.902, the reference "14 CFR Part 103, Air Transportation;" is removed and the reference "49 CFR Part 180" is revised to "49 CFR part 195".

§ 1926.904 [Amended]

7. In paragraph (a) of § 1926.904, the words "Internal Revenue Service" are revised to read "Bureau of Alcohol, Tobacco and Firearms" and the reference "26 CFR Part 181" is revised to "27 CFR part 55."

§ 1926.914 [Amended]

8. In paragraph (b) of § 1926.914, the words "Internal Revenue Service" are revised to read "Bureau of Alcohol, Tobacco and Firearms" and the reference "26 CFR Part 181" is revised to "27 CFR part 55."

[FR Doc. 93–15119 Filed 6–29–93; 8:45 am]

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Part III

Environmental Protection Agency

40 CFR Parts 117, 302, and 355
Reportable Quantity Adjustments for Lead Metal, Lead Compounds, Lead-Containing Hazardous Wastes, and Methyl Isocyanate; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 117, 302, and 355

[SW H–FRL 4673–1]

Reportable Quantity Adjustments for Lead Metal, Lead Compounds, Lead-Containing Hazardous Wastes, and Methyl Isocyanate

AGENCY: U.S. Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: In this rulemaking, the U.S. Environmental Protection Agency (EPA) is promulgating reportable quantity (RQ) adjustments for 30 hazardous substances whose RQs were proposed to be adjusted in a proposed rule on May 8, 1992 and modified by a technical correction notice on June 25, 1992. These hazardous substances include lead metal, 12 lead compounds, 15 waste streams listed under the Resource Conservation and Recovery Act (RCRA) that contain lead, RCRA characteristic wastes that fail the Toxicity Characteristic Leaching Procedure based on their lead constituents, and methyl isocyanate (MIC). The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, requires the Administrator of EPA to adjust RQs for CERCLA hazardous substances, including the 30 substances in this rule. Under CERCLA, the person in charge of a vessel or facility must, as soon as such person has knowledge of a release of a hazardous substance into the environment in an amount equal to or greater than its RQ, immediately report the release to the National Response Center. The RQs for the hazardous substances promulgated in this rule will provide the Agency with information concerning releases of lead metal, lead compounds, lead-containing hazardous wastes, and MIC into the environment at levels that correspond to the relative hazards posed by exposure to these substances.

EFFECTIVE DATE: July 30, 1993.

ADDRESSES: Docket: Copies of materials relevant to this rulemaking are contained in room M2427 at the U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460 (Docket Number 102 RQ–31L). The docket is available for inspection between the hours of 9 a.m. and 4 p.m., Monday through Friday, excluding Federal holidays. Appointments to review the docket can be made by calling 1–202/260–3046. The public may copy a maximum of 267 pages from any regulatory docket at no cost. If the number of pages copied exceeds 267, however, a charge of $0.15 will be incurred for each page after page 100.

Release Notification: The toll-free telephone number of the National Response Center is 1–800/424–8802; in the Washington, DC metropolitan area, the number is 1–202/267–2675.

FOR FURTHER INFORMATION CONTACT:

Ms. Gerain H. Perry, Response Standards and Criteria Branch, Emergency Response Division (5202G), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460 or at 703/603–9055; or the RCRA/Superfund Hotline at 1–800/424–9346 (in the Washington, DC metropolitan area, contact 703/920–9810). The Telecommunications Device for the Deaf (TDD) Hotline number is 1–800/553–7672 (in Washington, DC metropolitan area, contact 703/486–3323).

SUPPLEMENTARY INFORMATION: The contents of today's preamble are listed in the following outline:

I. Introduction

A. Statutory Authority
B. Background of this Rulemaking
1. Previous Proposed and Final RQ Adjustments
2. Developments Leading to Today's Final Rule
3. Agency Efforts to Reduce Exposure to Lead

II. Reportable Quantity Adjustments

A. Introduction
B. Summary of Reportable Quantity Adjustment Methodology
C. Basis of RQ Adjustments for Lead Metal, Lead Compounds, and Lead-Containing Hazardous Wastes
1. Summary of Data on Neurotoxic Effects of Lead in Children
2. Application of the RQ Adjustment Methodology to Neurotoxicity Data
3. RQ Adjustments for Lead Metal, Lead Compounds, and Lead-Containing Hazardous Wastes
4. Response to Comments
a. Bioavailability
b. Potential Carcinogenicity
c. Mixture rule
d. Scope of substances covered
e. Statutory requirements for RQ adjustment
f. Lead chromate pigments
g. Reporting and response burden
D. RQ Adjustment for Methyl Isocyanate
1. RQ Adjustment History
2. Summary of Reproductive and Respiratory Studies
3. Response to Comments
a. Studies not considered
b. Rate of hydrolysis
c. Consideration of site-specific factors
d. Industry prevention standards
e. Purpose of upward RQ adjustment

III. Reportable Quantity Adjustments Under section 311 of the Clean Water Act

IV. Reportable Quantities Listed in 40 CFR part 355

V. Minor Conforming Changes to 40 CFR part 355

VI. Regulatory Analyses

A. Executive Order No. 12291
B. Regulatory Flexibility Act
C. Paperwork Reduction Act

I. Introduction

A. Statutory Authority

Under section 102(b) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (Pub. L. 96–510), 42 U.S.C. 9601 *et seq.*, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) (Pub. L. 99–499), a reportable quantity (RQ) of one pound is established for releases of hazardous substances, except for hazardous substances whose RQs were established pursuant to section 311 of the Clean Water Act (CWA). Section 102(a) of CERCLA authorizes the Administrator of the U.S. Environmental Protection Agency (EPA or "the Agency") to adjust all of these RQs by regulation.

Under CERCLA section 103(a), the person in charge of a vessel or facility must, as soon as such person has knowledge of a release of a hazardous substance in a quantity that equals or exceeds its RQ, immediately report the release to the National Response Center. A release is reportable if an RQ or more is released within a 24-hour period. This notification requirement serves as a trigger for informing the government of a release so that Federal personnel can evaluate the need for a Federal removal or remedial action and undertake any necessary action in a timely fashion. Under section 104 of CERCLA, the Federal government may respond whenever there is a release or substantial threat of a release of a hazardous substance into the environment. Response activities are to be taken, to the extent practicable, in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR part 300), which was originally developed under the CWA and which has been revised to reflect the responsibilities and authority created by CERCLA.

In addition to the reporting requirement under CERCLA, section 304 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (Pub. L. 99–499), 42 U.S.C. 11001 *et seq.*, also known as SARA title III, requires owners or operators of

certain facilities to report certain release of extremely hazardous substances (EHSs) and CERCLA hazardous substances to State and local authorities. EPCRA section 304 notification must be given immediately after releases of hazardous substances in quantities equal to or greater than their RQs (or one pound if a reporting trigger is not established by regulation) to the community emergency coordinator for each local emergency planning committee ("LEPC") for any area likely to be affected by the release, and to the State emergency response commission ("SERC") of any State likely to be affected by the release. These notification requirements apply to releases that extend off-site and that are from facilities at which a "hazardous chemical" (defined by regulations under the Occupational Safety and Health Act of 1970 (29 CFR 1910.1200(c)) and section 311(e) of EPCRA) is produced, used, or stored.

Section 311(b)(5) of the CWA requires the person in charge of a vessel or facility, as soon as that person has knowledge of any discharge of a CWA hazardous substance, to immediately notify the appropriate Federal agency.

Section 109 of CERCLA and section 325 of EPCRA authorize EPA to assess civil penalties for failure to report releases of hazardous substances that equal or exceed their RQs. Section 103(b) of CERCLA authorizes EPA to seek criminal penalties for failure to notify pursuant to CERCLA section 103(a) or for submitting false or misleading information in a notification.

B. Background of this Rulemaking

1. Previous Proposed and Final RQ Adjustments

Adjustments are being promulgated for two categories of RQs in this rule: (1) statutory RQs; and (2) RQs adjusted in previous final rules. All of these statutory and previously adjusted RQs will be superseded by the 10-pound RQ adjustments promulgated in today's final rule. No RQ is assigned in this final rule to the class of "lead and compounds," which is included in the list of CERCLA hazardous substances on Table 302.4 of 40 CFR 302.4. For further discussion of this issue, see section II.C.4.f. The chronology of the previous proposed and final RQ adjustments is summarized briefly in the remainder of this Section.

EPA initially proposed to adjust the statutory one-pound RQ for methyl isocyanate (MIC) to 100 pounds in the May 25, 1983, Notice of Proposed Rulemaking (NPRM) (48 FR 23552). After the December 3, 1984 release of MIC in Bhopal, India and the resultant loss of human life, EPA withdrew this proposed RQ adjustment in the April 4, 1985, final rule (50 FR 13456) and retained the statutory one-pound RQ, pending further analysis of the data on MIC.

Eight of the substances whose RQs are being adjusted today (lead chloride, lead fluoborate, lead fluoride, lead iodide, lead nitrate, lead sulfate, lead thiocyanate, and waste stream K046) received final RQ adjustments of 100 pounds based on their chronic toxicity in the September 29, 1986, final rule (51 FR 34534).

In an NPRM published on March 16, 1987 (52 FR 8140), EPA proposed to adjust the statutory RQ for lead subacetate (one pound) to 100 pounds based on chronic toxicity; this 100-pound proposed RQ was promulgated on August 14, 1989 (54 FR 33426).

In the same NPRM, EPA proposed to adjust the statutory RQs for lead acetate (5000 pounds) and lead phosphate (one pound) to 10 pounds based on potential carcinogenicity. EPA also proposed one-pound RQ adjustments for 11 lead-containing waste streams (K002, K003, K005, K048, K049, K051, K061, K062, K069, K086, and K100). The RQs for these 11 waste streams were proposed at one pound on March 16, 1987 because at that time: (1) The RQs for hexavalent chromium compounds (e.g., calcium chromate), which are constituents of each of these waste streams, were being proposed at one pound; and (2) the existing RQ for lead metal was one pound.[1] The RQ for hexavalent chromium compounds was changed to 10 pounds in the August 14, 1989, final rule, based on public comments received on the March 16, 1987, NPRM.

An RQ of 100 pounds was proposed in the March 16, 1987, NPRM for RCRA characteristic wastes that are toxic by virtue of their lead constituents. Since the March 16, 1987, NPRM, the procedure for determining the toxicity of RCRA characteristic wastes has been changed from the extraction procedure (EP) to the toxicity characteristic leaching procedure (TCLP) (55 FR 11798, March 29, 1990).[2] RCRA characteristic wastes that fail the TCLP test are referred to as TC wastes. The RQs of the metal constituents of TC wastes are based on the RQs of the soluble salts of the metal in question (52 FR 8148, March 16, 1987). The RQ for the soluble salts is used, rather than the RQ for the metal itself, because the TCLP (similar to the earlier extraction procedure) tests for the presence of the soluble salts.

In the March 2, 1988, NPRM (53 FR 6762), EPA reproposed 100-pound RQ adjustments for lead acetate and lead phosphate. In the same NPRM, EPA reproposed the RQ adjustment for lead metal at 100 pounds, and proposed RQ readjustments of 100 pounds for lead stearate and lead sulfide.[3] The RQ adjustments proposed in the March 2, 1988, NPRM were based on the Human Health Assessment Group's (HHAG's) re-evaluation of the potential carcinogenicity of lead metal and lead compounds and its determination that these hazardous substances were weight-of-evidence Group B2 potential carcinogens.

Three lead-containing waste streams (K064, K065, and K066) were listed as hazardous under RCRA section 3001 on September 3, 1988 (53 FR 35412).[4] Because the RQs for these waste streams were not proposed for adjustment, the statutory one-pound RQ remained applicable.

Although tetramethyl lead is included within the class of "lead and compounds" on Table 302.4 of 40 CFR 302.4, tetramethyl lead is not otherwise specifically listed as a CERCLA hazardous substance. EPA proposed to designate tetramethyl lead as a CERCLA hazardous substance on January 23, 1989 (54 FR 3388) and to adjust its statutory RQ from one pound to 100 pounds on August 30, 1989 (54 FR 35988). Because EPA has not yet promulgated this rule, tetramethyl lead is not specifically listed as a CERCLA hazardous substance and it is not assigned an adjusted RQ in today's rule. By virtue of its inclusion in the class of "lead and compounds," however, releases of tetramethyl lead remain subject to response, abatement, and liability provisions under CERCLA. For further discussion of the CERCLA

[1] As the Agency has stated (54 FR 33440, August 14, 1989), the RQ for a hazardous waste stream is the lowest RQ of any of its constituents. One pound is the lowest possible RQ level. Although a 5000-pound RQ was proposed for lead metal in the April 4, 1985, NPRM the statutory one-pound RQ for lead metal was retained in the September 29, 1986, final rule.

[2] This change applies to all RCRA toxicity characteristic wastes, including those that are toxic by virtue of their lead constituents.

[3] The statutory RQ for lead metal (one pound) was proposed to be adjusted to 5000 pounds in an April 4, 1985 NPRM (50 FR 13514). Lead stearate and lead sulfide received RQ adjustments of 5000 pounds in the September 29, 1986 final rule (51 FR 34534).

[4] The listing of waste streams K064, K065, and K066 as hazardous under RCRA was remanded to EPA for further explanation of the specific studies that support the Agency's decision to list these wastes. See *American Mining Congress* v. *U.S. Environmental Protection Agency*, No. 88–1835 (D.C. Cir., July 10, 1990). The Agency is documenting the technical evidence to support the listing of these three waste streams as RCRA hazardous wastes.

requirements that apply to the class of "lead and compounds," see section II.C.4.f of this preamble.

In the May 8, 1992, NPRM (57 FR 20014), the Agency proposed to adjust the RQ for MIC to 100 pounds based on an evaluation of reproductive and respiratory effects under the Agency's chronic toxicity criterion and the application of the secondary RQ adjustment criteria of biodegradation, hydrolysis, and photolysis (BHP). As discussed in section II.D.3.b, EPA has decided, based on public comments, that it would be inappropriate to apply BHP to adjust the 10-pound chronic toxicity RQ for MIC to 100 pounds. Therefore, EPA is promulgating a 10-pound adjusted RQ for MIC in today's final rule.

2. Developments Leading to Today's Final Rule

On November 30, 1988, at the request of outside parties and as part of a broader review of EPA's scientific policy regarding lead, EPA's Science Advisory Board and Clean Air Scientific Advisory Committee, formed a Joint Study Group. This Group reviewed the HHAG determination that lead metal and lead compounds are weight-of-evidence Group B2 potential carcinogens. In the August 14, 1989 final rule to adjust RQs for potential carcinogens (54 FR 33435), EPA stated that until the Joint Study Group review of the HHAG determination was complete, it would withhold final RQ adjustments for lead metal, lead acetate, lead phosphate, lead stearate, and lead sulfide that were proposed to be adjusted in the March 2, 1988 NPRM, and for 11 lead-containing waste streams proposed to be adjusted in the March 16, 1987, NPRM. In December 1989, the Joint Study Group issued a report containing its findings and recommendations.[5] The Joint Study group supported the HHAG's evaluation of the potential carcinogenicity of lead metal and lead compounds and, in particular, its determination that these hazardous substances are weight-of-evidence Group B2 potential carcinogens.

The Joint Study Group also recommended that EPA reassess its regulatory strategy concerning lead to emphasize the prevention of adverse neurotoxic effects in children. Recent available data show that: (1) A correlation exists between exposure to lead (measured as blood lead levels) and neurotoxic effects; and (2) children are particularly susceptible to these effects. For a discussion of the studies that form the basis for these conclusions, see section II.C.1 of this preamble.

One aspect of the Agency's methodology for adjusting the RQs of CERCLA hazardous substances, the chronic toxicity criterion, is designed to consider the neurotoxicity of these substances. However, when this criterion was applied to lead metal and lead compounds in 1983, the extent of absorption of lead was not sufficiently known. Therefore, an accurate relationship between environmental lead levels and toxic concentrations within the body could not be established.

Since 1983, several studies have determined that various forms of lead are absorbed through oral, dermal, and inhalation routes, and have established a linear relationship between dietary lead intake and blood lead levels in children. Based on one of these studies,[6] the Agency has estimated that 16 percent of environmental lead to which an individual child is exposed by ingestion is absorbed into the child's bloodstream. Taken together with the evidence from studies conducted prior to 1983, the results of more recent studies show that there is a relationship between children exhibiting symptoms typical of lead exposure and their blood lead levels, and that children may be at greater risk of neurobehavioral impairment than adults when exposed to lead metal and lead compounds in part because their physiological defense mechanisms are not fully developed. These studies have led to the general acceptance in the scientific community of using blood lead levels as an index of lead exposure.[7]

EPA has reapplied its chronic toxicity criterion to lead metal, lead compounds, and lead-containing hazardous wastes using the more recent studies on lead's neurotoxic effects in children. As a result, EPA today is promulgating 10-pound RQ adjustments for lead metal and 12 lead compounds based on chronic toxicity. The Agency also is promulgating adjusted RQs of 10 pounds for 15 lead-containing waste streams: K002, K003, K005, K046, K048, K049, K051, K061, K062, K064, K065, K066, K069, K086, and K100.[8] The lowest RQ of the constituents of a waste stream determines the RQ for each waste stream. The 10-pound final RQ for lead metal and lead compounds is the lowest RQ of the constituents of each of the 15 lead-containing waste streams included in today's final rule.[9] In addition, the RQ for TC wastes that are toxic by virtue of their lead constituents also is being promulgated at 10 pounds because 10-pound RQs are being promulgated today for soluble lead salts, such as lead acetate.

The final adjusted RQs for lead metal, lead compounds, and lead-containing hazardous wastes will provide the Agency with information concerning releases of lead into the environment at levels that correspond to the relative hazards posed by exposure to these hazardous substances. Upon notification of such releases, the Agency will be able to evaluate the need for a Federal removal or remedial action consistent with its strategy to reduce overall environmental exposure to lead.

Today's RQ adjustments amend Table 302.4 of 40 CFR 302.4, which lists RQs for CERCLA hazardous substances, and appendices A and B of 40 CFR part 355, which list CERCLA RQs for EHSs. In addition, some of today's final RQ adjustments amend Table 117.3 of 40 CFR 117.3, which lists RQs established for hazardous substances under section 311(b)(4) of the CWA.

3. Agency Efforts To Reduce Exposure to Lead

This rulemaking is consistent with EPA's overall strategy to reduce environmental exposure to lead. The goal of this strategy is to reduce lead exposures to the fullest extent possible, with particular emphasis on decreasing health risks to children, who are particularly sensitive to lead exposure (see section II.C.1).

Specifically, the Agency intends to reduce the amount of lead introduced into the environment by developing methods to identify geographic "hot spots," implementing a lead pollution prevention program using regulatory mechanisms, minimizing lead pollution

[5] U.S. EPA, Report of the Joint Study Group on Lead: Review of Lead Carcinogenicity and EPA Scientific Policy on Lead (EPA–SAB–EHC–90–001), December 1989, available for inspection as part of the public docket for this rulemaking at Room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[6] Ryu, J.E., E.E. Ziegler, S.E. Nelson, and S.J. Fomon, 1983. Dietary Intake of Lead and Blood Lead Concentration in Early Infancy. *Am. J. Dis. Child* 137:886.

[7] U.S. EPA, 1986. Air Quality Criteria for Lead. See this document for a summary of data concerning the effects of lead exposure on neurobehavioral development. For further information on the effects of low blood lead levels on the neurobehavioral development of children, see Exhibit 3–4 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA Section 102, Volume 6, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington DC 20460.

[8] The method for determining when an RQ or more of a hazardous substance in a mixture or solution has been released is codified at 40 CFR 302.6(b).

[9] In addition, some of these waste streams contain cadmium and hexavalent chromium, which have 10-pound RQs.

through traditional pollution control devices, developing and transferring abatement technology to lead pollution sources, and ensuring the availability of environmentally sound recycling of lead.

To date, the Agency has made progress toward reducing environmental exposure to lead. There have been large reductions in concentrations of lead in air and in food products since the late 1970's, primarily due to the phase-down of lead use in gasoline. While data are not available on changes to concentrations of lead in soil over time, it is likely that reductions in soil deposition have occurred as air emissions have declined.[10]

Section II of this preamble discusses the rationale for RQ adjustments in general, describes the methodology used in adjusting RQs from their statutory levels, and explains the specific RQ adjustments promulgated in today's final rule. Section III of this preamble addresses RQ adjustments promulgated today under section 311 of the CWA. Section IV describes the changes made to 40 CFR part 355 to reflect the RQ adjustment for one EHS, MIC, that is promulgated in today's rule. Section V describes minor conforming changes to the footnotes that accompany the lists of hazardous substances and EHSs in 40 CFR parts 302 and 355. Section VI provides a summary of the regulatory analyses supporting this final rule.

II. Reportable Quantity Adjustments

A. Introduction

In this rulemaking, the Agency is promulgating RQ adjustments based on specific scientific and technical criteria that relate to the possibility of harm from the release of a hazardous substance into the environment. The RQ adjustments made today will enable the Agency to focus its resources on those releases that are more likely to pose threats to public health or welfare or the environment. The net effect of these 30 RQ adjustments will be to relieve the regulated community and emergency response personnel from the burden of making and responding to reports of releases that are less likely to pose such threats.

B. Summary of the Reportable Quantity Adjustment Methodology

The Agency has wide discretion in adjusting the statutory RQs for hazardous substances under CERCLA. Administrative feasibility and practicality are important considerations. The Agency's methodology for adjusting the RQs of individual hazardous substances begins with an evaluation of the intrinsic physical, chemical, and toxicological properties of each hazardous substance.[11] The intrinsic properties examined—called "primary criteria"—are aquatic toxicity, mammalian toxicity (oral, dermal, and inhalation), ignitability, reactivity, chronic toxicity, and potential carcinogenicity.

Generally, for each intrinsic property, the Agency ranks hazardous substances on a scale, associating a specific range of values on each scale with an RQ value of 1, 10, 100, 1000, or 5000 pounds.[12] These RQ levels were originally established pursuant to CWA section 311 (see 40 CFR part 117 and 44 FR 50776, August 29, 1979). The data for each hazardous substance are evaluated using various primary criteria; each hazardous substance may receive several tentative RQ values based on its particular intrinsic properties. The lowest of the tentative RQs becomes the "primary criteria RQ" for that substance.

The Agency is promulgating 10-pound RQs today for lead metal, lead compounds, lead-containing hazardous wastes, and MIC based on the tentative RQs these hazardous substances received when evaluated for chronic toxicity.[13] Under the methodology for developing chronic toxicity tentative RQs, each substance is first assigned two rating values, one based on the dose that causes a particular effect, and one based on the severity of the effect. The dose rating values range from one to 10, with 10 representing the most toxic substances. The effect rating values also range from one to 10, with 10 representing the most severe effect. The product of the dose and effect rating values for the substance yields a composite score between one and 100, which is directly proportional to the toxicity of the substance. Chronic toxicity tentative RQs are then assigned on the basis of the composite score as shown in Table 1:

TABLE 1.—RELATIONSHIP OF COMPOSITE SCORES TO CHRONIC TOXICITY TENTATIVE RQS

Composite score	RQ (lbs.)
81–100	1
41–80	10
21–40	100
6–20	1000
1–5	5000

After the primary criteria RQs are assigned, substances are further evaluated for their susceptibility to certain degradative processes, which are used as secondary adjustment criteria. These natural degradative processes are biodegradation hydrolysis, and photolysis (BHP).[14] If a hazardous substance, when released into the environment, degrades relatively rapidly to a less hazardous form by one or more of the BHP processes, its RQ (as determined by the primary RQ adjustment criteria), is generally raised one level.[15] This adjustment is made because the relative potential for harm to public health or welfare or the environment posed by the release of such a substance is reduced by these degradative processes. Conversely, if a hazardous substance degrades to a more hazardous product after its release, the original substance is assigned an RQ equal to the RQ for the more hazardous substance, which may be one or more levels lower than the RQ for the original substance. The downward adjustment is appropriate because the hazard posed by the release of the original substance is increased as a result of BHP.

On August 30, 1989 (54 FR 35988), the Agency proposed to add the methodology for developing threshold planning quantities (TPQs) pursuant to EPCRA section 302 to the RQ adjustment methodolgy. The RQ adjustment methodology used to calculate the proposed RQ adjustments for lead and lead compounds published in the May 8, 1992, NPRM (see 57 FR 20018) included application of the TPQ criteria in order to reflect the proposed addition of these criteria to the RQ adjustment methodology in the August 30, 1989 NPRM. However, the proposed

[10] U.S. EPA, 1990. U.S. Environmental Protection Agency Strategy for Reducing Lead Exposures. Office of Pesticides and Toxic Substances.

[11] A different methodology applies for assigning adjusted RQs to radionuclides (see 54 FR 22524, May 24, 1989).

[12] RQ levels for potential carcinogens are 1, 10, and 100 pounds; for ignitable and reactive hazardous substances, 10, 100, 1000, and 5000 pounds; and for radionuclides, 10^{-3}, 10^{-2}, 10^{-1}, 1, 10, 100, and 1000 curies.

[13] For further information on the chronic toxicity RQ adjustment methodology, see the Technical Background Document to Support Rulemaking Pursuant to CERCLA section 102, Volume 2, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[14] For further information on the methodology for applying BHP, see the Technical Background Document to Support Rulemaking Pursuant to CERCLA Section 102, Volume 1, March 1985, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[15] No RQ level increase based on BHP occurs if the primary criteria RQ is already at its highest possible level (100 pounds for potential carcinogens and 5000 pounds for all other types of hazardous substances except radionuclides). BHP is not applied to radionuclides.

addition of the TPQ criteria to the RQ adjustment methodology has not yet been promulgated. Consequently, the Agency has not finalized the application of the methodology for developing TPQs in its evaluation of the hazardous substances whose RQs are being adjusted today.

In the May 8, 1992, NPRM (57 FR 20018), the Agency noted that application of the TPQ criteria to the substances evaluated in the proposed rule did not affect any of the proposed RQs. Likewise, the RQ adjustments promulgated in today's final rule would be the same whether the current RQ adjustment methodology, or the proposed expanded methodology, is used.

C. Basis of RQ Adjustments for Lead Metal, Lead Compounds, and Lead-Containing Hazardous Wastes

1. Summary of Data on Neurotoxic Effects of Lead in Children

As mentioned in section I.B.2 of this preamble, available data show a clear relationship between blood lead levels in children and a variety of neurotoxic effects.[16] Children may be at greater risk of neurobehavioral impairment in part because their nervous systems are undergoing rapid development, their physiological defense mechanisms against toxicants are not effective as those of adults, they characteristically ingest foreign objects, and they absorb significantly more lead from these objects than do adults.[17]

Studies in children demonstrate conclusively that low blood lead levels are associated with neurobehavioral impairments, and that the severity of neurobehavioral impairment increases with increasing blood lead levels. Findings of severe nervous system damage at high blood lead levels in certain studies confirm the validity of findings of similar, but less severe, damage at lower levels.[18]

Studies of children with lower blood lead levels (10 to 15 µg/dL) show less severe but still detectable neurobehavioral changes, including a positive correlation between blood lead levels and neurobehavioral defects. A series of recent prospective studies in children support the relationship between low levels of lead exposure and detectable neurobehavioral impairment. Prospective studies identify a group of individuals who may be at risk from long-term exposure and then monitor exposure, as well as the health effects resulting from that exposure, over time. Prospective experiments are particularly important because adverse effects in an exposed child can be studied from early pregnancy through childhood. During this period, levels of environmental lead can be accurately and continuously assessed. Prospective studies, therefore, avoid many of the problems associated with retrospective studies, in which exposure levels must be estimated months or years after exposure began. Prospective studies in a group of Boston children from six months to 2 years of age showed impaired responses in tests of mental development associated with prenatal blood lead levels of 10 to 25 µg/dL.[19] In addition, a study of Australian children has shown that early childhood exposures to low levels of lead results in impaired intellectual development at two, four, and seven years of age.[20]

Based on current available prospective and cross-sectional studies,[21] the Agency believes that exposure of children to lead resulting in blood lead levels of as low as 10 to 15 µg/dL represents a health concern. This conclusion is further supported by consistent findings in a large body of experimental animal studies.[22]

2. Application of the RQ Adjustment Methodology to Neurotoxicity Data

In light of recent data on the neurotoxic effects of lead on children, EPA has decided to reassess the RQs for lead metal as well as the lead compounds and lead-containing hazardous wastes that are CERCLA hazardous substances using the RQ adjustment methodology (see section II.B of this preamble). Application of the RQ adjustment methodology for a CERCLA hazardous substance begins with the derivation of a "primary criteria RQ" for each of the several primary criteria, including chronic toxicity (which considers neurotoxic effects). Based on the application of the chronic toxicity criterion used to assign tentative RQs (described in section II.B) to the neurotoxicity data on lead summarized above, EPA has calculated composite scores of between 44.8 and 51.1 for lead metal and each of the individual lead compounds included in today's final rule.[23] As indicated by Table 1 in Section II.B, the composite scores for lead and lead compounds correspond to tentative chronic toxicity RQs of 10 pounds. Therefore, lead metal and all lead compounds listed in Table 1 are assigned final adjusted RQs of 10 pounds based on chronic toxicity.

The Agency considered the individual characteristics, including bioavailability[24] and molecular weight, of lead metal and each of the lead compounds in deriving the RQs promulgated in today's rule. The specific chemical forms of lead whose RQs are adjusted in today's rule have not been assigned differential bioavailabilities because, based on a review of the available literature on humans, ingestion of these chemical forms of lead results in blood lead levels that are capable of posing a similar degree of hazard to public health or welfare.[25] The Agency has adjusted the

[16] See U.S. EPA, 1990. Air Quality Criteria for Lead, Supplement to the 1986 Addendum, Volume I.

[17] For a discussion of and citations to the studies on the absorption of lead through the gastrointestinal tract in newborn children, see section 3 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA section 102, Volume 6, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[18] For discussion of and citations to the studies on the effects of high blood lead levels, see section 3 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA section 102, Volume 6, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460

[19] Bellinger, D. et al., 1989. Low-level Lead Exposure and Early Development in Socioeconomically Advantaged Urban Infants. In: Smith, M.A., Grant, L.D., Sors, A.I., eds Lead Exposure and Child Development: An International Assessment. Lancaster, United Kingdom.

[20] Baghurst, P.A., A.J. McMichael, N.R. Wigg, G.V. Vimpani, E.F. Robertson, R.J. Roberts, and S. Tong. 1992. Environmental exposure to lead and children's intelligence at the age of seven years. New England Journal of Medicine, Vol. 327, No. 18, pp. 1279–1284.

[21] For a discussion of and citations to the prospective and cross-sectional studies used to support the association between low level lead exposures and neurotoxicological effects in children, see section 3 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA section 102, Volume 6, available for inspection as part of the public docket for this rulemaking at Room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460. In addition, for a more detailed review and assessment of these prospective and cross-sectional studies, see U.S. EPA, 1990. Air Quality Criteria for Lead, Supplement to the 1986 Addendum, Volume I.

[22] For a discussion of the neurotoxicological effects of lead exposure in experimental animals, see section 3 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA Section 102, Volume 6, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington DC 20460.

[23] For a table providing the dose and effect ratings for each of these substances, see Exhibit 3–5 in the Technical Background Document to Support Rulemaking Pursuant to CERCLA Section 102, Volume 6, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[24] Bioavailability represents the rate and extent to which a substance is absorbed or otherwise assimilated into body tissue following exposure by various routes, such as ingestion.

[25] U.S. EPA, 1986. Air Quality Criteria for Lead. Volumes I-IV. Available from the National Technical Information Service (NTIS), Springfield, VA, PB87–142378.

dietary lead intake levels for lead metal and each of the lead compounds by calculating the product of the intake level for lead metal and the fractional contribution of lead, based on the molecular weight of each compound.[26] These differences in dietary lead intake levels for lead metal and each of the lead compounds result in various composite scores (see discussion above) that are all within the range corresponding to a chronic toxicity RQ of 10 pounds.[27] The assignment of 10-pound RQs to each of the lead-related substances in this rule is not equivalent to a determination that each of these substances is equally bioavailable.

After evaluation under the primary criteria, lead metal and lead compounds were evaluated for the secondary RQ adjustment criteria of BHP. This evaluation did not result in any changes to the primary criteria RQs.[28]

3. RQ Adjustments for Lead Metal, Lead Compounds, and Lead-Containing Hazardous Wastes

As a result of the application of the RQ adjustment methodology to the neurotoxicity data on lead metal and lead compounds, EPA today is promulgating adjusted RQs for 13 individual lead-containing hazardous substances, 15 lead-containing hazardous waste streams, and the TC wastes that are toxic by virtue of their lead constituents.[29]

The RQs for all 13 individual hazardous substances are adjusted to 10 pounds based on the primary criterion of chronic toxicity; none of their RQs was adjusted upward or downward based on BHP. The RQ for a hazardous waste stream is the same as the lowest of the RQs of the substances that are constituents of the waste stream. Each of the RQs for the 15 lead-containing hazardous waste streams is being adjusted to 10 pounds because the lowest RQ for any hazardous constituent in each of the waste streams is 10 pounds.[30] If the quantity of one or more of the hazardous constituents of a mixture (including a waste stream) is unknown, notification is required when the total amount of the mixture released equals or exceeds this lowest RQ of the constituents (10 pounds in the case of the lead-containing waste streams). However, where the quantities of the hazardous constituents of a mixture are known, notification is required only when an RQ or more of any hazardous constituent is released. Each TC waste that is toxic by virtue of its lead constituents receives an RQ of 10 pounds, which is equal to the RQ for soluble lead salts. For further discussion of how EPA derives the RQs for TC wastes, see section I.B.1 of this preamble.

One other lead compound (tetraethyl lead), and one lead-containing waste stream (K052), were assigned to 10-pound RQs based on chronic toxicity in a previous final rule (51 FR 34534, September 29, 1986). Because the application of the RQ adjustment methodology to the neurotoxicity data on lead metal and lead compounds results in 10-pound RQs for these two substances, no adjustment to their existing 10-pound RQ levels need be made, and the primary criterion on which their RQs are based (chronic toxicity) remains the same. However, the neurotoxicity data summarized in section II.C.1 above provide additional support for the 10-pound RQs for tertraethyl lead and waste stream K052. These neurotoxicity data are available for inspection in the docket for this rulemaking (Docket Number 102 RQ–31L).[31]

The RQ for one other lead compound, lead arsenate, also is not being adjusted in this rulemaking. Lead arsenate was assigned a one-pound RQ in the August 14, 1989 final rule (54 FR 33426) based on the potential carcinogenicity of arsenic. Because the current one-pound RQ for lead arsenate is based on the potential carcinogenicity of arsenic and is lower than the 10-pound RQs promulgated today for lead metal, the lead compounds discussed herein, and lead-containing waste streams, the RQ for lead arsenate does not need to be readjusted in today's final rule.

4. Response to Comments

a. *Bioavailability.* Bioavailability can be considered as part of the chronic toxicity RQ adjustment methodology. However, the limited available data concerning the bioavailability of lead metal and lead compounds are not sufficient to change the RQs for any of these hazardous substances from the 10-pound level.

Four commenters claimed that EPA incorrectly assigned the same RQ level (10 pounds) to all lead compounds and that the Agency failed to consider the differing bioavailabilities of various forms of lead. In particular, the commenters asserted that lead sulfide is significantly less bioavailable than other lead compounds (e.g., lead acetate) used by EPA as the basis for the proposed RQs.

The commenters provided the Agency with new data on the bioavailability of lead acetate and mining waste soils (which contain lead sulfate).[32] The Agency did not propose to specifically regulate lead-containing mining wastes as part of this rule. In addition, because these data are derived from studies of mining waste, rather than from studies of lead metal or particular lead compounds, the data could not be used to establish RQs for the specific lead compounds in this rule.

The commenters also provided data comparing the solubility of lead acetate and lead sulfate in simulated gastric fluid. These data demonstrate that lead acetate is 10,000 times more soluble than lead sulfate in water, but also show that after two hours in simulated gastric fluids (to reflect the holding time in the stomach), lead acetate is only five times more soluble than lead sulfate. Lead acetate would need to be at least eight times more bioavailable than lead sulfate to raise the RQ for lead sulfate from 10 pounds to 100 pounds. The commenters did not provide any direct data on bioavailability, but the data they provided on solubility do not suggest that the differences in bioavailability between lead acetate and lead sulfate

[26] The dose derived from this intake level was used as the minimum effective dose for purposes of RQ determination. For more detailed discussion, see sections 2 and 3 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA section 102, Volume 6, and the Reportable Quantity Document for each individual lead compound, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[27] For a list of the composite scores for lead metal and each of the lead compounds, see Exhibit 3–6 in section 3 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA section 102, Volume 6, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[28] In addition to the evaluations based on the primary and secondary criteria, EPA has proposed that the TPQ criteria be incorporated into the RQ adjustment methodology (see Section II.B of this preamble). Of the lead-related substances whose RQs are adjusted in today's rule, none meet the first of the TPQ criteria (i.e., fall within the limits of the EHS screening criteria). Therefore, none of the primary criteria RQs for lead metal, lead compounds, and lead-containing hazardous wastes whose RQs are adjusted in today's rule would be affected by application of the TPQ criteria.

[29] These RCRA characteristic wastes are considered as one hazardous substance for the purposes of today's final rule.

[30] All of these waste streams contain at least one of the lead compounds adjusted to 10 pounds today. In addition, some of these waste streams contain cadmium and hexavalent chromium, which have 10-pound final RQs.

[31] See section 3 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA Section 102, Volume 6, and the Reportable Quantity Document for Tetraethyl Lead, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[32] Freeman, G.B., et al. 1992. Relative Bioavailability of Lead from Mining Waste Soil in Rats. Fund and Appl. Tox. 19:388–398.

are sufficient to raise the RQ for lead sulfate.[33]

EPA considered the limited available data related to the bioavailability of lead compounds in the assignment of RQs to lead metal and lead compounds. Recent scientific evidence, including the studies cited by the commenters, is consistent with the Agency's position that all chemical forms of lead that have been tested are ultimately absorbed in the gastrointestinal tract. Furthermore, the data provided by the commenters on the differences in solubility of various lead compounds in simulated gastric fluids do not suggest that any differences in bioavailability would change the RQs for any of these compounds from the 10-pound level. For a more detailed explanation of solubility and bioavailability issues, see Section 3 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA Section 102, Volume 6, available for inspection as part of the public docket for this rulemaking at Room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

b. *Potential carcinogenicity.* EPA received several comments on the classification of lead and lead compounds as potential carcinogens. Because the RQ adjustments promulgated in today's rule are based on chronic toxicity rather than potential carcinogenicity, these comments are addressed only in the comment response document which is available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

c. *Mixture rule.* Three commenters requested that EPA adjust the RQs for waste streams K048, K049, and K051 to 5000 pounds rather than 10 pounds, as proposed. One commenter requested the EPA adjust the RQ for waste stream K061 to 1000 pounds rather than 10 pounds. In addition, one commenter stated that a generic RQ of 10 pounds for waste streams K069 and K100 is inappropriate. In a final rule promulgated on August 14, 1989 (54 FR 33440), the Agency stated that the RQ assigned to a hazardous waste stream is the lowest RQ of any of its constituents. As mentioned in section II.C.3 of this preamble, each of the 10-pound RQ adjustments for the 15 lead-containing hazardous waste streams is appropriate because the lowest RQ for any of the hazardous constituents in these waste streams is 10 pounds.

These five commenters generally argued that the RQs for these waste streams should take into account the low concentrations of hazardous constituents. Three of the commenters recommended that the Clean Water Act mixture rule used to determine reporting requirements for mixtures of hazardous substances also be applied to hazardous waste streams. EPA would like to clarify that 40 CFR 302.6(b)(1)(i) states that the mixture rule can be applied only if the person in charge of a facility knows the concentrations of all hazardous constituents of the mixture. EPA acknowledges that the process of determining the precise quantities of hazardous constituents in a waste stream in some cases may be difficult or impossible. However, such a determination is not required by the RQ regulations. Under 40 CFR 302.6(b)(1)(ii), where the quantities of constituents of a mixture are not known, the person in charge is required to report when the total amount of the waste stream released equals or exceeds the RQ for the hazardous constituent with the lowest RQ (i.e., the RQ for the waste stream). Although EPA recognizes that this latter approach would result in a greater number of notifications being received by the National Response Center and by State and local authorities, such an increase would be appropriate because it would ensure that government personnel are able to evaluate the need for a response to the release of a waste stream that may have above-average concentrations of hazardous constituents.

d. *Scope of substances covered.* One commenter requested that releases of "expended lead shot and bullets [in sports shooting activities] be specifically exempted from CERCLA reporting requirements" in the final rule adjusting RQs for lead and lead compounds. The commenter asserted that in establishing CERCLA section 103, Congress did not intend to require reporting of all releases associated with shooting at target ranges.

EPA has established by regulation that notification of a release of an RQ of solid particles of lead metal is not necessary if the diameter of the lead metal particles released is greater than 100 micrometers (see 40 CFR 302.6(d) and 50 FR 13461, April 4, 1985). If, however, sports shooting activities result in the release of 10 pounds or more of lead metal with a particle size of less than 100 micrometers into the environment, the release must be reported immediately to the National Response Center and to state and local authorities.

Although Congress created specific statutory exemptions from the notification requirements of CERCLA section 103 for several types of releases, Congress did not create an exemption from CERCLA reporting requirements for releases associated with shooting at target ranges. Therefore, under the statute, releases associated with such activities are not exempt from CERCLA reporting requirements.

To the extent that a release associated with sports shooting activities is "continuous" and "stable in quantity and rate" as those terms are defined in the continuous release reporting regulation (40 CFR 302.8), the person in charge of the facility may be subject to the reduced reporting requirements for continuous releases authorized by CERCLA section 103(f)(2). If the criteria described in 40 CFR 302.8 are met, the person in charge need not report each release as it occurs, as would otherwise be required under CERCLA section 103(a). Rather, if the criteria for continuous releases are met, the person in charge of the facility must make only one telephone call to the National Response Center, the State emergency response commission (SERC), and, the local emergency planning committee (LEPC); submit to the EPA Region, the SERC, and the LEPC a written report characterizing the release; and submit a follow-up report one year later to the EPA Region. Thereafter, the person in charge must notify EPA only if there is a change in the release, or an increase in the release above the normal range during any 24-hour period.

e. *Statutory requirements for RQ adjustment.*

One commenter stated that the May 8, 1992, NPRM is arbitrary and capricious because EPA failed to present toxicity and exposure information sufficient to demonstrate that the proposed RQs for lead and lead compounds are necessary to prevent substantial danger to public health or the environment. The commenter then suggested that to determine whether substantial danger exists, some reasonable analysis is necessary to establish that the magnitude and duration of potential exposure are sufficient to pose a real threat of chronic effects.

EPA disagrees with the commenter's premise that the reason for adjusting RQs under CERCLA is that the adjusted RQ is "necessary to prevent substantial danger to public health or the environment." Apparently, the

[33] Bioavailability, as used here, means the relationship between the amount of lead ingested and the amount of lead that enters the bloodstream, as measured by blood lead levels. Solubility, as used here, is the degree to which lead dissolves in the gastric fluid of the stomach. Thus, these two terms are not synonymous. For example, studies reviewed by EPA show that although lead acetate is 100 percent soluble in gastric fluid, only 16 percent of the lead acetate ingested is absorbed into the bloodstream.

commenter has misinterpreted CERCLA section 102(a) which requires the EPA Administrator to designate as hazardous substances those substances "which when released into the environment may present substantial danger to public health or welfare or the environment." CERCLA section 102(a) further requires the Administrator to "promulgate regulations establishing that quantity of any hazardous substance the release of which shall be reported pursuant to section 103 of this title." Thus, the substantial danger standard applies not to RQ adjustments, but to the evaluation that must occur as a prerequisite to listing additional hazardous substances (beyond those required to be listed under section 101(14) under CERCLA.

RQs are adjusted based on specific scientific and technical criteria that relate to the possibility of harm from the release of a hazardous substance. It is important to note, however, that RQs do not represent determinations of absolute risk. Rather, RQs are merely reporting triggers that will allow appropriate government personnel to conduct an assessment to determine whether a particular release of a hazardous substance poses a threat to public health or welfare or the environment.

f. *Lead chromate pigments.* One commenter objected to EPA's determination that specific forms of lead would not be assigned differential bioavailabilities because the absorption rates of different chemical forms of lead appear to be about equal. The commenter stated that the health effects resulting from exposure to a substance are related to the bioavailability of the substance. The commenter further stated that lead chromate pigments have extremely low bioavailability because they have very low solubility in stomach acid.

Because lead chromate is not specifically listed as a CERCLA hazardous substance and its RQ is not adjusted in today's rule, EPA has not made a regulatory determination that specifically assessed the bioavailability of lead chromate. However, as discussed in greater detail in section II.C.4.a of this preamble, differences in the solubility of the lead compounds whose RQs are adjusted in this rule are not sufficient to change the RQs for any of these substances from the 10-pound level.

The commenter also noted that lead chromate pigments are used and disposed of safely in a variety of commercial applications, and are extensively regulated under current statutes and regulations. EPA acknowledges that lead chromate pigments are used in a variety of industrial applications and that industrial hygiene practices can be used to minimize worker exposure. EPA encourages these protective measures. EPA would like to clarify that regulation of the industrial uses of, and worker exposure to, lead chromate are beyond the scope of this rule. As noted by the commenter, regulations pertinent to these issues can be found in Federal labor regulations. The Occupational Safety and Health Administration (OSHA) lead standard (29 CFR 1910.1025), regulates exposure to lead (including lead metal and all inorganic lead compounds) in the workplace. OSHA hazardous waste operations and emergency response and health and safety programs (29 CFR 1900.120(b)) require that employers develop and implement written programs that identify, evaluate, and control safety and health hazards, and provide for emergency response for hazardous waste operations.

Releases of hazardous substances into the environment in amounts equal to or greater than their reportable quantities (RQ) must be reported immediately to the National Response Center under section 103 of CERCLA and to the SERC and LEPC under EPCRA section 304. The purpose of these notification requirements is to give appropriate government personnel the opportunity to decide whether a response action is necessary to protect public health or welfare or the environment. By contrast, the OSHA regulations cited by the commenter require protective practices and equipment to prevent exposure to hazardous chemicals in the workplace and procedures for communicating relevant hazards to workers.

The list of hazardous substances in 40 CFR 302.4 includes certain classes of compounds designated as toxic pollutants under section 307(a) of the Clean Water Act. In the April 4, 1985, final rule (50 FR 13461), after a technical review of their hazardous constituents, the Agency decided not to establish RQs for these classes of compounds, including the category "lead and compounds." Thus, CERCLA section 103 reporting requirements apply only to those lead compounds for which RQs are otherwise specifically listed under the statutes referenced in CERCLA section 101(14) (see Table 302.4 of 40 CFR 302.4). Although lead chromate falls under the class of "lead and compounds," lead chromate is not otherwise specifically listed as a CERCLA hazardous substance. For this reason, lead chromate has not been assigned an RQ and, consequently, releases of lead chromate are not subject to CERCLA section 103 or EPCRA section 304 reporting requirements. It is important to note, however, that releases of lead chromate remain subject to response, abatement, and liability provisions under CERCLA.

The commenter has indicated that certain lead chromate pigments contain lead sulfate and that both lead metal and lead nitrate are used in the manufacturing process for lead chromate pigments. Unlike lead chromate, each of these three lead-related substances is specifically listed as hazardous in Table 302.4 of 40 CFR 302.4 and each is assigned a 10-pound adjusted RQ in this rule. CERCLA section 103 and EPCRA section 304 reporting requirements would apply, therefore, to releases of lead sulfate, lead metal, or lead nitrate into the environment in a quantity that equals or exceeds 10 pounds, and to releases of lead chromate mixtures containing those substances calculated in accordance with the mixture rule set forth in 40 CFR 302.6(b).

In addition, lead metal and hexavalent chromium (two of the three elements that constitute the compound lead chromate) are the constituents for which 11 of the RCRA waste streams in this rule are listed as hazardous. These 11 waste streams are K002, K003, K004, K005, K049, K051, K061, K062, K069, K086, and K100. A release of any of these waste streams into the environment must be reported pursuant to the notification requirements for releases of mixtures or solutions in 40 CFR 302.6(b). Upon promulgation of this rule, the RQ for these 11 waste streams will be 10 pounds based on the 10-pound RQ for lead metal and hexavalent chromium which are the constituents with the lowest RQs. If the concentrations of the constituents of one of these waste streams is known, notification is required where amounts equal to or greater than an RQ of any hazardous constituent (e.g., 10 pounds or more of hexavalent chromium or lead metal) is released into the environment. If the quantity of one or more of the hazardous constituents of a waste stream is unknown, notification is required where an amount of the waste stream equal to or greater than its RQ (10 pounds) is released. Four of these waste streams may be of particular interest to the commenter (K002, K003, K005, and K086) because each of these waste streams may be produced by the lead chromate pigment industry. The Agency has not identified the nature of the lead compounds contained in these waste streams, but has based the adjusted RQ for the waste streams on the RQs for lead metal and the lead compounds that are established in today's rule.

RCRA characteristic wastes containing lead and/or chromium that fail the RCRA toxicity characteristic (TC) leaching procedure are unlisted hazardous wastes D007 (chromium) and D008 (lead) (55 FR 11798, March 29, 1990). Pursuant to CERCLA section 101(14)(C), these wastes are also CERCLA hazardous substances with 10-pound RQs. The 10-pound RQs for these wastes are based on the RQs for their hazardous constituents, chromium and lead.

g. *Reporting and response burden.* Several commenters stated that the proposed RQ adjustments, in particular the adjustment of the RQ for lead sulfide from the statutory 5000-pound level to 10 pounds, would impose rather than relieve a regulatory burden.

The Agency was referring to the net effect of the RQ adjustments proposed in the May 8, 1992, NPRM (57 FR 20014) in its assertion that these RQ adjustments would relieve the regulated community and emergency response personnel from the burden of unnecessary reporting and response actions. In this final rule, EPA is raising the RQs for 18 hazardous substances and lowering the RQs for 12 hazardous substances from their previous levels. As indicated above, EPA estimates that the net effect of all 30 RQ adjustments would be to reduce by approximately 361 the number of reportable releases for these hazardous substances each year. This reduction in reportable releases is estimated to result in a net cost savings, as discussed in the economic analysis in support of the final rule. The net effect of the 30 RQ adjustments promulgated in today's final rule will be to relieve the regulated community and emergency response personnel from the burden of making and responding to reports of releases that are less likely to pose threats to public health and welfare and the environment.

D. RQ Adjustment for Methyl Isocyanate

1. RQ Adjustment History

As mentioned in section I.B.1, EPA initially proposed to adjust the statutory one-pound RQ for MIC to 100 pounds in the May 25, 1983, NPRM (48 FR 23565). After the December 3, 1984 release of MIC in Bhopal, India, which resulted in over 2,000 human fatalities and approximately 170,000 injuries, EPA withdrew this proposed RQ adjustment in the April 4, 1985, final rule (50 FR 13456) and retained the statutory one-pound RQ, pending further analysis of the data on MIC.

In the March 2, 1988, NPRM (53 FR 6762), EPA announced that it had obtained additional toxicological data on MIC, including new animal studies documented in "Environmental Health Perspectives," Volume 72, and that it was awaiting human toxicological and epidemiological data associated with the release of MIC in Bhopal. EPA has completed its analysis of the animal and human data on the toxic effects of MIC. The discussion below summarizes these data, their application to the RQ adjustment methodology, and the final adjusted RQ for MIC.

2. Summary of Reproductive and Respiratory Studies

At Bhopal contamination of an MIC storage tank increased the pressure within the tank until a key pressure valve burst. Gases containing approximately 40,000 pounds of MIC then surged through the relief vent lines and overwhelmed the scrubber system, escaping unneutralized to the surrounding environment and city of Bhopal. Studies of pregnant women exposed to MIC as a result of this incident show an unusually high mortality rate among fetal and newborn children.[34] For example, one survey conducted nine months after the release of MIC found that miscarriage occurred in approximately 44 percent of all pregnancies, a miscarriage rate four to seven times higher than the average rate in the Bhopal region.[35] The same study found that 14 percent of the infants that had survived birth died within 30 days, a mortality rate five to six times higher than the regional rate.

Reproductive studies of laboratory mice exposed to MIC provide further evidence to support the relationship between exposure to MIC and significant increases in fetal and newborn deaths. One study of pregnant mice exposed to MIC at concentrations of 1 or 3 parts per million (ppm) during a critical period of fetal development demonstrated a positive correlation between concentration of MIC exposure and adverse fetal effects.[36] The mice in the group exposed to the higher concentration of MIC (3 ppm) demonstrated more severe effects, including a high rate of fetal and postnatal mortality through 21 days of age. These effects were exhibited by mice in numerous litters (i.e., the effects were not isolated in a single litter), indicating a low probability that the effects were caused by genetic sensitivity to MIC in particular mice.

Additional animal studies have found a significant relationship between exposure to MIC and impaired lung function.[37] MIC is a lung irritant that stimulates the secretion of excessive amounts of mucus and other protective fluids in the lungs. One study of laboratory mice found that overstimulation of these fluids contributes to impaired lung function and may result in death by asphyxiation.[38] Mice that survived exposure to MIC by inhalation exhibited scar formation in the lungs and decreased respiratory function.

Based on these human and animal studies of the adverse reproductive and respiratory effects of MIC, EPA has re-evaluated MIC using the RQ adjustment methodology (see section II.B of this preamble). Evaluation of MIC based on the chronic toxicity methodology used to assign tentative RQs (which considers reproductive and respiratory effects) resulted in a composite score of 46.[39] As shown in Table 1 in section II.B, this composite score corresponds to a tentative chronic toxicity RQ of 10 pounds. This 10-pound RQ based on chronic toxicity was the lowest tentative RQ resulting from application of the primary RQ adjustment criteria to MIC.[40]

After the application of the primary RQ adjustment criteria, MIC was evaluated under the secondary criteria of BHP. Because MIC undergoes rapid

[34] For discussions of and citations to the studies on the effects of high concentrations of MIC, see Section 4 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA Section 102, Volume 6, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[35] Varma, D.R., 1987. Epidemiological and Experimental Studies on the Effect of Methyl Isocyanate on the Course of Pregnancy. In: Hook, G.E., Lucier, G.W., eds. Environmental Health Perspectives. 72:153–157.

[36] Schwetz, B.A. et al., 1987. Methyl Isocyanate: Reproductive and Developmental Toxicology Studies in Swiss Mice. In: Hook, G.E., Lucier, G.W., eds. Environmental Health Perspectives. 72:149–152.

[37] Fowler, E.H. and D.E. Dodd, 1987. Respiratory Tract Changes in Guinea Pigs, Rats, and Mice Following a Single Six-hour Exposure to Methyl Isocyanate Vapor. In: Hook, G.E., Lucier, G.W., eds. Environmental Health Perspectives. 72:109–116.

[38] Bucher, J.R. and L. Uraith, 1989. Carcinogenicity and Pulmonary Pathology Associated With a Single, Two-hour Inhalation Exposure of Laboratory Rodents to Methyl Isocyanate. Chappell, J., ed. Journal of the National Cancer Institute. 81(20):1586–1587.

[39] For further information on the chronic toxicity data for MIC and for its dose and effect ratings, see section 4 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA Section 102, Volume 6, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[40] An evaluation of MIC based on acute inhalation toxicity resulted in a tentative RQ of 100 pounds. Because the 10-pound, tentative chronic toxicity RQ (based on reproductive and respiratory effects) is lower than the 100-pound tentative acute toxicity RQ, the primary criteria RQ for MIC is 10 pounds.

hydrolysis in water to form methylamine (which has a 100-pound RQ) and several non-CERCLA substances,[41] the RQ for MIC was proposed to be raised from the primary criteria level of 10 pounds to 100 pounds based on BHP. As discussed in the response to comments below, several commenters on the May 8, 1992, NPRM objected to the application of BHP to raise the RQ for MIC from the primary criteria level of 10 pounds to 100 pounds. Based on a thorough review of the hydrolysis data for MIC, EPA has decided that the application of BHP in this case would be inappropriate. Therefore, the Agency is promulgating a 10-pound adjusted RQ for MIC in today's final rule. For further discussion of the BHP data on MIC, see section 2 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA section 102, Volume 6, available for inspection in the docket for this rulemaking.[42]

Under the current RQ adjustment methodology, no criteria exist for addressing chronic or delayed effects resulting from single exposures to hazardous substances. Nevertheless, EPA has reviewed a number of studies designed to evaluate delayed, chronic effects in experimental animals following single, brief inhalation exposures similar to those that occurred at Bhopal. Extensive studies of pulmonary changes in rats were conducted in which the animals were observed for periods as long as six months following a single exposure to 3, 10, or 30 ppm of MIC.[43] These studies indicated the delayed development of restrictive lung lesions, persistent airway obstruction, and pulmonary hypertension. A close correlation appears to exist between laboratory animals and Bhopal survivors with respect to chronic pulmonary and cardiopulmonary effects. As discussed in the response to comments below, EPA has conducted an analysis of whether the results of these studies would affect the RQ for MIC.

3. Response to Comments

a. *Studies not considered.* Six commenters stated that the RQ for MIC should not be adjusted until EPA revised its RQ adjustment methodology to allow for consideration of chronic effects from acute or single exposures to a hazardous substance. One of these commenters stated that "EPA chose to ignore valid data simply because it would not fit into a scientific formula. This does not comport with the Agency's policy of erring on the side of conservatism." Another commenter believed that EPA's rationale in the preamble to the May 8, 1992, NPRM was confusing and contained contradictory statements relating to the evaluation of delayed or chronic effects resulting from single exposure to MIC.

In response, the Agency would like to clarify that although the current RQ adjustment methodology considers chronic effects from long-term exposures to hazardous substances, there is no specific mechanism in the methodology to consider chronic effects from acute or single exposures. In order to provide a comprehensive discussion of all types of health effects that may result from exposure to MIC in the May 8, 1992, NPRM, however, EPA mentioned the pulmonary effects that have been found in studies of laboratory rats exposed by inhalation to single doses of MIC.

The commenter did not provide data on the chronic effects from acute exposures to MIC. Nevertheless, EPA has identified and analyzed available data on such chronic effects from acute exposures,[44] and based on its analysis of these relevant data, has concluded that the 10-pound adjusted RQ for MIC promulgated in today's rule would not change. If any additional data come to EPA's attention, the 10-pound RQ for MIC will be re-evaluated and revised, as appropriate.

The analysis performed by the Agency evaluated chronic effects from acute exposures using three variations of the primary criteria under the RQ adjustment methodology: (1) Acute mammalian toxicity (inhalation); (2) acute mammalian toxicity (oral); and (3) chronic toxicity. Evaluation of the data under each of these three alternatives resulted in dose and effect ratings that correspond to a 100-pound tentative RQ.[45] This 100-pound tentative RQ is higher than the 10-pound tentative RQ based on chronic toxicity. Thus, even if the chronic effects from acute exposures to MIC were considered as part of the RQ adjustment methodology, the 10-pound chronic toxicity RQ for MIC would not change.

One commenter requested that EPA consider the risks associated with exposure of individuals suffering from chemical sensitivity in adjusting the RQ for MIC. EPA recognizes that some people are sensitive to extremely low levels of exposure to hazardous substances. It is important to note, however, that the standard for establishing RQs under CERCLA section 102 is not to protect the most sensitive human populations that may be affected by releases of hazardous substances. Rather, the adjusted RQs reflect the level at which the government is most appropriately notified of potential threats to public health or welfare or the environment, without being overburdened by notifications of releases that are unlikely to pose such threats. Once notified, response personnel assess release-specific factors such as location of the release, proximity to drinking water supplies or other valuable resources, and likelihood of exposure or injury to nearby populations to determine whether a government response is necessary to protect public health or welfare or the environment.

b. *Rate of hydrolysis.* Three commenters objected to EPA's application of the secondary RQ adjustment criteria of BHP to adjust the 10-pound chronic toxicity RQ of MIC to 100 pounds. One of these commenters noted that, although the Agency's analysis considered hydrolysis of MIC in water, MIC would not characteristically be discharged to water and that 100 pounds of MIC under dry, windless conditions could present a serious health threat to surrounding communities.

EPA proposed in the May 8, 1992, NPRM to adjust the RQ of MIC from the statutory one-pound level to 100 pounds. In the proposed rule, evaluation of chronic toxicity data on MIC resulted in a primary criterion RQ of 10 pounds. The proposed application of the secondary criteria of BHP resulted in a one-level increase in the adjusted RQ for MIC to 100 pounds. The proposed application of BHP to MIC was based on the rate at which MIC undergoes hydrolysis in water to form methylamine (RQ of 100 pounds) and carbon dioxide. EPA's review of available data in light of concerns raised by the commenter, however, has resulted in an Agency determination that adjusting the RQ for MIC based on

[41] These non-CERCLA substances include carbon dioxide and, under certain conditions, N,N'-dimethylurea and carboxymethylamine.

[42] Docket Number 102 RQ-31L. Application of the TPQ methodology would result in a 100-pound RQ. Thus, the RQ for MIC would be the same whether the current RQ adjustment methodology, or the proposed expanded methodology, is used.

[43] Bucher, J.R., 1987. Methyl Isocyanate: A Review of Health Effects Research Since Bhopal. Fundamental and Applied Toxicology. 9:367–379.

[44] Bucher, J.R., et al., 1989. Carcinogenicity and Pulmonary pathology Associated with a Single 2-Hour Inhalation Exposure of Laboratory Rodents to Methyl Isocyanate. J. Nat. Cancer Inst. 81(20): 1586–1587.

[45] For further information on the three alternatives considered in evaluating chronic effects from acute exposures, see section 4 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA Section 102, Volume 6, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

the secondary criteria of BHP would be inappropriate.

The Agency proposed to apply the secondary criterion of hydrolysis to adjust the RQ for MIC in the May 8, 1992, NPRM because MIC hydrolyses in water at 25° Celsius (C) with a half life of approximately nine minutes (see Technical Background Document to Support Rulemaking Pursuant to CERCLA Section 102, Volume 6). Under the standards established by EPA for the RQ adjustment methodology, the secondary criterion of hydrolysis may be applied when the hydrolytic half life is equal to or less than five days (50 FR 13469, April 4, 1985).

The Agency, however, has reserved the right to take into account other factors when applying the secondary criteria for adjustment. For example, the Agency does not apply the biodegradation secondary criterion to any highly volatile substance, unless that substance is also highly water soluble (50 FR 13469, April 4, 1985). This decision was made because biodegradation occurs in soil and water, but not in air.[46] If a highly volatile substance with low water solubility is released, the release will be to air and not to water or soil where biodegradation can occur. The secondary RQ adjustment criterion of biodegration is applied, however, to highly volatile substances that are also water soluble. Ammonia, for example, is a highly volatile gas at standard temperature and pressure that is also highly water soluble. Ammonia that escapes to the atmosphere after release tends to remain there for only a short time before it is returned to the soil or water, as a result of its water solubility, and degraded by naturally occurring bacteria.[47]

Hydrolysis, in a manner similar to biodegradation, is a phenomenon that takes place most readily in soil or water. MIC is volatile, but unlike ammonia, it is not highly water soluble. Upon release, MIC will volatilize and tend to persist in air and not be returned to soil or water where hydrolysis can take place most readily. As noted by EPA previously,[48] the decision to adjust an RQ upward one level on the basis of the BHP criteria requires the existence of technical evidence that the substance is indeed subject to biodegradation, hydrolysis, or photolysis. No such evidence exists for MIC vapor in air.

There are no data suggesting that MIC meets the criteria for biodegradation or photolysis. Although the RQ for MIC was proposed to be adjusted upward based on hydrolysis in the May 8, 1992, NPRM, several properties of MIC, as explained below, suggest that application of hydrolysis in today's final rule would not be appropriate. MIC vapor is approximately twice as dense as air. Therefore, releases of MIC vapor will tend to follow terrain contours and, in the absence of wind or air turbulence, settle in low spots. Even if MIC is released to water, it tends to float on the surface and not mix with the water. This allows most of the MIC to evaporate and form vapor clouds.

The process used by the Agency to calculate the rate of hydrolysis of MIC is based on measurement of its reaction rate in water. The hydrolysis of MIC in water is a three-step process: (1) The collision of MIC with water to form an activated complex; (2) the collapse of the activated complex to form an intermediate and water; and (3) the breakdown of the intermediate to form methylamine and carbon dioxide. The rate-limiting step of this process in aqueous solution has been experimentally shown to be step 2, the collapse of the activated complex to form an intermediate and water.[49] This is reasonable because, in aqueous solution, the collisions between MIC and water are frequent and result in rapid formation of activated complexes (step 1). Also, the intermediate is likely to be less stable than the molecules methylamine and carbon dioxide and will quickly decompose to form these more stable products (step 3).

Although the rate of hydrolysis of MIC in water has been determined, the rate of hydrolysis of MIC in air is unknown. The concentration of water and its availability for reaction in air is variable and, of course, much less than in aqueous solution. As a result, the rate-limiting step of the hydrolysis of MIC in air may be step 1, collision between water molecules and MIC to form activated complexes. Assuming that, in air, the rate of step 1 is markedly less than the rates of steps 2 and 3 of the reaction, the rate of hydrolysis of MIC in air, even moist air, would be much slower than in water.

EPA agrees with the commenter who suggested that MIC is more likely to be released to air than to water. Because MIC is a volatile organic compound that is not very soluble in water and is less dense than water, a significant portion of releases of MIC into water will ultimately enter the air. Furthermore, the rate of MIC's hydrolysis in air is unknown and may be considerably slower than it is in water. As a result of these factors, the Agency has decided not to apply the secondary RQ adjustment criterion of hydrolysis to adjust the 10-pound primary criteria RQ for MIC to 100 pounds. Therefore, the final adjusted RQ for MIC will be 10 pounds, based on chronic toxicity.

c. *Consideration of site-specific factors.* One commenter expressed concern that MIC continues to be produced, emitted, and stored at the Rhone-Poulenc facility in Institute, West Virginia. The commenter noted that the distance of the MIC unit from the fenceline is 1,700 feet, and that the average stored inventory is 320,000 pounds (the maximum stored volume is 400,000 pounds). The commenter stated that the proximity of the unit to the Institute community, and the health effects of MIC are reasons for EPA not to promulgate an RQ adjustment for MIC "that will jeopardize the life and health of individuals directly downwind." The commenter requested that the statutory one-pound RQ for MIC be retained.

EPA understands the commenter's concern regarding the proximity of the Rhone-Poulenc facility to the Institute, West Virginia community and the potential threat to public health posed by the relatively large amount of MIC stored at the facility. EPA has decided that a 100-pound RQ for MIC would be inappropriate because a more thorough analysis of the data on the hydrolysis of MIC in the environment shows that the rate of degradation in air may not be sufficient to meet EPA's standards for applying the secondary RQ adjustment criteria of BHP. Therefore, the RQ for MIC is being adjusted to 10 pounds, the level indicated by the available reproductive and respiratory effects data under the primary RQ adjustment criterion of chronic toxicity.

EPA believes that receiving notification of all releases of 10 pounds or more of MIC is sufficient to allow government personnel to decide whether a response action is necessary to protect public health or welfare or the

[46] For further information on the biodegradation criterion, see section 2 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA section 102, volume 1, March 1985, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[47] For further information on substances that are both highly volatile and highly water soluble, see section 2 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA section 102, volume 2, August 1986, available for inspection as part of the public docket for this rulemaking at room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[48] See Section 2 of the Technical Background Document to Support Rulemaking Pursuant to CERCLA section 102, Volume 1, March 1985, available for inspection as part of the public docket for this rulemaking at Room M2427, U.S. EPA, 401 M Street, SW., Washington, DC 20460.

[49] Castro, E. A., et al . The Kinetics of Hydrolysis of Methyl and Phenyl Isocyanates. J. Chem. Soc., Perkin Trans. II, 5:737–42 (1985).

environment. In addition, EPA would like to note that the RQ adjustment methodology does not consider site-specific factors. In enacting CERCLA, Congress recognized that establishing a different RQ for every conceivable release scenario would be infeasible. The legislative history of CERCLA emphasizes the virtues of simplicity and administrative convenience (see Sen. Rep. 848, 96th Cong., 2d Sess. 29 (1980)). EPA considered the option of establishing multiple RQs for each hazardous substance based on such factors as release history, environmental media into which a substance is released, and whether a particular release is likely to require a government response (50 FR 13456, April 4, 1985). However, EPA decided that considering these factors in adjusting RQs would be undesirable because such a process would: (1) Place an intolerable burden on Agency resources; (2) delay the RQ adjustments; and (3) result in a complex reporting system that would cause confusion. EPA believes that the 10-pound final adjusted RQ for MIC will provide notification that is adequate to protect public health and welfare and the environment.

Another commenter stated that the community of Institute, West Virginia, including the industrial facilities, the emergency responders and plant neighbors already have a "good neighbor" policy to report releases in amounts even less than one pound. The commenter stated that each of these groups agree that one pound should and will remain the quantity reported locally. The commenter concluded that EPA's proposal to adjust the RQ for MIC upward "may be entirely moot." If, in fact, the industrial facilities in the Institute, West Virginia area currently are reporting all one-pound releases to local authorities, the Agency believes that the adjusted RQ of 10 pounds for MIC would simply provide the added benefit of requiring notification to the Federal government under CERCLA section 103 and to State emergency response commissions and local emergency planning committees under EPCRA section 304.

A different commenter noted that a small release of only a few ounces at the Rhone-Poulenc facility at Institute, West Virginia in 1990 sent two workers to the hospital, but was not reported to the community residents until three days later. The commenter stated that since this incident, Rhone-Poulenc claims they report all toxic emissions, regardless of the amount. The commenter concluded that the proposed 100-pound RQ adjustment for MIC would only add to the distrust and suspicions that already exist in the community.

The Agency cannot consider and protect against all conceivable release scenarios when establishing an RQ for a hazardous substance. If all such scenarios were to be considered in adjusting RQs, the Federal government would receive a large number of notifications of extremely small releases of hazardous substances. Because of the time and resources necessary to process reports of these numerous releases, the Federal government would be unable to respond in a timely fashion to releases that are more likely to pose a threat to public health or welfare or the environment. In the situation described by the commenter, worker exposure would have occurred regardless of whether the small release of MIC had been reported. Other regulations designed to prevent releases and to protect workers from harmful exposures, such as those administered by the Occupational Safety and Health Administration (OSHA), are designed to address the concerns raised by the commenter.

As noted above, EPA encourages the Institute community and chemical companies in the area to work together to develop a voluntary reporting system that is satisfactory to all parties concerned for releases of MIC that are not covered by the CERCLA and EPCRA reporting requirements.

d. *Industry prevention standards.* One commenter claimed that if the statutory one-pound RQ for an accidental MIC release is adjusted upward 100-fold, industry may become lax with its preventive maintenance programs.

EPA does not agree that an upward adjustment of the reporting level for MIC under CERCLA would decrease industry prevention and planning practices. The provisions of other laws that require planning and prevention practices will apply, regardless of the level at which EPA establishes the final adjusted RQ for MIC.

For example, OSHA's Process Safety Management rule (57 FR 6356, February 24, 1992) requires that employers establish and implement written procedures to maintain the integrity of equipment and to train employees in those maintenance procedures. Under the rule, facilities must also perform tests and inspections on process equipment. These tests must be documented and any deficiencies found in the equipment must be corrected. Members of the Chemical Manufacturers Association are required to participate in the organization's Community Awareness and Emergency Response (CAER) program, which subjects industries to an additional set of process safety management guidelines.

The RQ serves only as a trigger to notify Federal, State, and local government authorities of a release that has the potential to threaten public health or welfare or the environment. It does not have any bearing on the process safety management programs and other prevention regulations to which a facility is subject. Therefore, raising the RQ for a hazardous substance should not result in a relaxation of process safety management standards for a particular facility.

Another commenter requested that EPA "not even consider increasing the levels of toxic chemicals of any kind." The commenter stated that Union Carbide and Rhone-Poulenc chemical facilities in the Institute, West Virginia area leave no safety buffer zone between themselves and a nearby college and the community of Institute. The commenter asserted that if the RQ for an accidental release of MIC is increased 100-fold, the lives and health of residents in a wide area would be threatened. The commenter suggested that EPA should decrease rather than increase allowances for hazardous chemical emissions so that companies will be required to make greater investments in research projects to minimize hazardous wastes as end-products.

EPA appreciates the commenter's concerns regarding potential exposure to hazardous wastes and toxic chemicals. The Agency also supports the goal of waste minimization and encourages companies to research methods of reducing or eliminating hazardous wastes as end products of the manufacturing process.

This goal, however, cannot be accomplished through the RQ notification program. The purpose of the RQs is to establish triggers for notifying appropriate government personnel of releases of hazardous substances so that a decision can be made whether a response action is necessary to protect public health or welfare or the environment. Furthermore, the commenter should note that the level at which RQs are established does not directly affect the ambient levels of toxic chemicals in the environment.

e. *Purpose of upward RQ adjustment.* Five commenters noted that Rhone-Poulenc, the U.S. manufacturer of MIC, did not request that the one-pound statutory RQ for MIC be adjusted to 100 pounds. One commenter asked whether EPA had received a petition for the RQ adjustment, or whether this was "unfinished business on the agency's agenda." This commenter suggested that the Agency serve in an oversight

capacity by supporting both sound science and community involvement in establishing standards for hazardous chemicals.

The EPA Administrator is authorized to adjust RQs under section 102(a) of CERCLA. The adjusted RQ levels are based on specific scientific and technical criteria that relate to the possibility of harm from a release of a hazardous substance into the environment. The adjusted RQs will enable the Agency to focus its resources on those releases that are more likely to pose potential threats to public health or welfare or the environment, while relieving the regulated community and emergency response personnel from the burden of making and responding to reports of releases that are less likely to pose such threats.

The Agency has made a concerted effort to be responsive to community concerns. Specifically, based on public comment, EPA has conducted a thorough review of all available data on the hydrolysis of MIC in water, and has decided that use of the secondary criteria of BHP in its RQ adjustment methodology for MIC would be inappropriate for several reasons (see discussion in section II.D.3.b). As a result of the Agency's decision not to adjust the primary criteria RQ for MIC upward based on its hydrolysis in water, the final adjusted RQ for MIC will remain at the primary criteria RQ level of 10 pounds. Therefore, EPA believes that the final RQ for MIC is supported by sound science and has been developed in response to the concerns raised by the community.

III. Reportable Quantity Adjustments Under Section 311 of the Clean Water Act

In the April 4, 1985, final rule (50 FR 13456), EPA amended 40 CFR 117.3 to make RQs adjusted under CERCLA the applicable RQs for notification of discharges of hazardous substances pursuant to CWA section 311. Ten of the hazardous substances whose CERCLA RQs are adjusted today—lead acetate, lead chloride, lead fluoborate, lead fluoride, lead iodide, lead nitrate, lead stearate, lead sulfate, lead sulfide, and lead thiocyanate—also have RQs under the CWA. Thus, the 10-pound RQ adjustments promulgated for these 10 substances apply to both CERCLA and CWA section 311. Where there is a release of a hazardous substance in a quantity equal to or greater than an RQ into navigable waters, a single report to the National Response Center by the person in charge will satisfy the notification requirements of both statutes. Of course, the owner or operator of the facility may still need to notify State and local authorities under EPCRA section 304. (Note, however, that section 304 does not apply to vessels.) For further discussion of the relationship between CERCLA RQs and CWA section 311 RQs, see the May 25, 1983, NPRM preamble (48 FR 23569) and the April 4, 1985, final rule preamble (50 FR 13473).

IV. Reportable Quantities Listed in 40 CFR Part 355

Appendices A and B of 40 CFR part 355, which list EHSs and their TPQs under EPCRA, also show the RQs for EHSs. One of the 30 substances whose RQs are adjusted in today's rule, MIC, is also an EHS. The RQ for MIC is adjusted from the statutory one-pound level to 10 pounds. Therefore, to fully reflect the RQ adjustment for MIC, EPA today is amending not only Table 302.4 of 40 CFR part 302 (which lists the RQs for all CERCLA hazardous substances), but also appendices A and B of 40 CFR part 355.

V. Minor Conforming Changes to 40 CFR Part 355

Footnote "f" that appears in both appendix A and appendix B of 40 CFR part 355 states that "[t]he statutory 1 pound reportable quantity for methyl isocyanate may be adjusted in a future rulemaking action." A correction notice published on June 25, 1992 (52 FR28471) proposed to remove footnote "f" from appendices A and B of 40 CFR part 355. Because today's final rule establishes a 10-pound adjusted RQ for MIC, the amendatory language for part 355 in today's rule removes footnote "f" from appendices A and B.

VI. Regulatory Analyses

A. Executive Order No. 12291

Executive Order (E.O.) No. 12291 requires that regulations be classified as major or non-major for purposes of review by the Office of Management and Budget (OMB). According to E.O. No. 12291, major rules are regulations that are likely to result in:

(1) An annual effect on the economy of $100 million or more; or

(2) A major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or

(3) Significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

As demonstrated by an economic analysis performed by the Agency, available for inspection at room M2427, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460, this final rule is nonmajor, because it would result in estimated net cost savings of $459,000 annually. In this final rule, RQs, for 18 hazardous substances would be raised and RQs for 12 hazardous substances would be lowered from their previous levels. The estimated net effect of these 30 RQ adjustments would be to reduce by approximately 361 the number of reportable releases for these hazardous substances each year (see the economic analysis mentioned above). The estimated $459,000 annual net cost savings reflect only those effects of the RQ adjustments that are:

(1) Readily quantifiable in dollars; and

(2) Associated with the release notification requirements under CERCLA section 103 and EPCRA section 304 (including the associated activities of recordkeeping, notification processing, monitoring, and response).

This final rule has been submitted to OMB for review, as required by E.O. No. 12291.

B. Regulatory Flexibility Act

The Regulatory Flexibility Act of 1980 requires that a Regulatory Flexibility Analysis be performed for all rulemakings that are likely to have a "significant impact on a substantial number of small entities." A Regulatory Flexibility Analysis is not necessary for this final rule, because the upper-bound total cost of compliance to small firms is negligible. See the Regulatory Impact Analysis of Reportable Quantity Adjustments Under sections 102 and 103 of the Comprehensive Environmental Response, Compensation, and Liability Act, Volume I, March 1985, available for inspection at room M2427, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460. Therefore, I hereby certify that today's rule will not have a significant impact on a substantial number of small entities. As a result, no Regulatory Flexibility Analysis is necessary.

C. Paperwork Reduction Act

The information collection requirements contained in this final rule have been approved by OMB under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. The public reporting burden for the collection of information pursuant to CERCLA section 103 is estimated to average 4.1 hours per response, including time for reviewing instructions, searching existing data sources, gathering and

maintaining the data needed, and completing and reviewing the collection of information. These information collection requirements have been assigned OMB control number 2050–0046. The public reporting burden for the collection of information pursuant to EPCRA section 304 is estimated to be 5 hours per response (OMB control number 2050–0092).

Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM–223, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, marked "Attention: Desk Officer for EPA."

List of Subjects

40 CFR Part 117

Hazardous substances, Penalties, Reporting and recordkeeping requirements, Water pollution control.

40 CFR Part 302

Air pollution control, Chemicals, Emergency Planning and Community Right-to-Know Act, Extremely hazardous substances, Hazardous chemicals, Hazardous materials, Hazardous materials transportation, Hazardous substances, Hazardous wastes, Intergovernmental relations, Natural resources, Pesticides and pests, Reporting and recordkeeping requirements, Superfund, Waste treatment and disposal, Water pollution control, Water supply.

40 CFR Part 355

Air pollution control, Chemical accident prevention, Chemical emergency preparedness, Chemicals, Community emergency response plan, Community right-to-know, Contingency planning, Disaster assistance, Emergency Planning and Community Right-to-Know Act, Extremely hazardous substances, Hazardous substances, Intergovernmental relations, Natural resources, Penalties, Reportable quantity, Reporting and recordkeeping requirements, Superfund Amendments and Reauthorization Act, Threshold planning quantity, Water pollution control, Water supply.

Dated: April 30, 1993.

Jonathan Cannon,

Acting Administrator.

For the reasons set out in the preamble, chapter I of title 40 of the Code of Federal Regulations is amended as follows:

PART 117—DETERMINATION OF REPORTABLE QUANTITIES FOR HAZARDOUS SUBSTANCES

1. The authority citation for part 117 continues to read as follows:

Authority: Secs. 311 and 501(a), Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), ("the Act") and Executive Order 11735, superceded by Executive Order 12777, 56 FR 54757.

2. Section 117.3 is amended by revising the following entries in Table 117.3 to read as set forth below. The note preceding Table 117.3 is republished without change.

§ 117.3 Determination of reportable quantities.

* * * * *

Note: The first number under the column headed "RQ" is the reportable quantity in pounds. The number in parentheses is the metric equivalent in kilograms. For convenience, the table contains a column headed "Category" which lists the code letters "X," "A," "B," "C," and "D" associated with reportable quantities of 1, 10, 100, 1000, and 5000 pounds, respectively.

TABLE 117.3.—REPORTABLE QUANTITIES OF HAZARDOUS SUBSTANCES DESIGNATED PURSUANT TO SECTION 311 OF THE CLEAN WATER ACT

Material	Category	RQ in pounds (kilograms)
* * * * *		
Lead acetate	A	10 (4.54)
* * * * *		
Lead chloride	A	10(4.54)
Lead fluoborate	A	10(4.54)
Lead fluoride	A	10(4.54)
Lead iodide	A	10(4.54)
Lead nitrate	A	10(4.54)
Lead stearate	A	10(4.54)

TABLE 117.3.—REPORTABLE QUANTITIES OF HAZARDOUS SUBSTANCES DESIGNATED PURSUANT TO SECTION 311 OF THE CLEAN WATER ACT CONTINUED

Material	Category	RQ in pounds (kilograms)
Lead sulfate	A	10(4.54)
Lead sulfide	A	10(4.54)
Lead thiocyanate	A	10(4.54)
* * * * *		

PART 302—DESIGNATION, REPORTABLE QUANTITIES, AND NOTIFICATION

3. The authority citation for part 302 continues to read as follows:

Authority: 42 U.S.C. 9602, 9603, and 9604; 33 U.S.C. 1321 and 1361.

4. Section 302.4 is amended by revising the note preceding Table 302.4 and the following entries in Table 302.4 to read as set forth below.

§ 302.4 Designation of hazardous substances.

* * * * *

Note: The numbers under the column headed "CASRN" are the Chemical Abstracts Service Registry Numbers for each hazardous substance. Other names by which each hazardous substance is identified in other statutes and their implementing regulations are provided in the "Regulatory Synonyms" column. The "Statutory RQ" column lists the RQs for hazardous substances established by section 102 of CERCLA. The "Statutory Code" column indicates the statutory source for designating each substance as a CERCLA hazardous substance: "1" indicates that the statutory source is section 311(b)(4) of the Clean Water Act, "2" indicates that the source is section 307(a) of the Clean Water Act, "3" indicates that the source is section 112 of the Clean Air Act, and "4" indicates that the source is RCRA section 3001. The "RCRA Waste Number" column provides the waste identification numbers assigned to various substances by RCRA regulations. The column headed "Category" lists the code letters "X," "A," "B," "C," and "D," which are associated with reportable quantities of 1, 10, 100, 1000, and 5000 pounds, respectively. The "Pounds (kg)" column provides the reportable quantity adjustment for each hazardous substance in pounds and kilograms.

TABLE 302.4.—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES

[Note: All comments/notes are located at the end of this table]

Hazardous substance	CASRN	Regulatory synonyms	Statutory			Final RQ	
			RQ	Code†	RCRA waste no.	Category	Pounds (kg)
• • •	•	•	•		•		•
Acetic acid, Lead(2+) salt	301042	Lead acetate	5000	1,4	U144	A	10 (4.54)
• • •	•	•	•		•		•
Lead††	7439921		1°	2		A	10 (4.54)
Lead acetate	301042	Acetic acid, lead(2+) salt	5000	1,4	U144	A	10 (4.54)
• • •	•	•	•		•		•
Lead, bis(acetatato-O)tetrahydroxytri-.	1335326	Lead subacetate	1°	4	U146	A	10 (4.54)
Lead chloride	7758954		5000	1		A	10 (4.54)
Lead fluoborate	13814965		5000	1		A	10 (4.54)
Lead fluoride	7783462		1000	1		A	10 (4.54)
Leod iodide	10101630		5000	1		A	10 (4.54)
Lead nitrate	10099748		5000	1		A	10 (4.54)
Lead phosphate	7446277	Phosphoric acid, lead(2+) salt (2:3)	1°	4	U145	A	10 (4.54)
Lead stearate	1072351		5000	1		A	10 (4.54)
7428480 52652592 56189094 Lead subacetate	1335326	Lead, bis(acetato-O)tetrahydroxytri-	1°	4	U146	A	10 (4.54)
Lead sulfate	7446142		5000	1		A	10 (4.54)
15739807 Lead sulfide	1314870		5000	1		A	10 (4.54)
Lead thiocyanate	592870		5000	1		A	10 (4.54)
• • •	•	•	•		•		•
Methane, isocyanato-	624839	Methyl isocyanate	1°	3,4	P064	A	10 (4.54)
• • •	•	•	•		•		•
Methyl isocyanate	624839	Methane, isocyanato-	1°	3,4	P064	A	10 (4.54)
• • •	•	•	•		•		•
Phosphoric acid, lead(2+) salt (2:3)	7446277	Lead phosphate	1°	4	U145	A	10 (4.54)
• • •	•	•	•		•		•
Unlisted Hazardous Waste Characteristics:. Characteristic of Toxicity:	N.A		1°	4			
• • •	•	•	•		•		•
Lead (D008)	N.A		1°	4	D008	A	10 (4.54)
• • •	•	•	•		•		•
K002—Wastewater treatment sludge from the production of chrome yellow and orange pigments.			1°	4	K002	A	10 (4.54)

TABLE 302.4.—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

[Note: All comments/notes are located at the end of this table]

Hazardous substance	CASRN	Regulatory synonyms	Statutory			Final RQ	
			RQ	Code†	RCRA waste no.	Category	Pounds (kg)
K003—Wastewater treatment sludge from the production of molybdate orange pigments.	.....	.....	1*	4	K003	A	10 (4.54)
.	.	.	.	.	.	.	.
K005—Wastewater treatment sludge from the production of chrome green pigments.	.....	.....	1*	4	K005	A	10 (4.54)
.	.	.	.	.	.	.	.
K046—Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	.....	.....	1*	4	K046	A	10 (4.54)
.	.	.	.	.	.	.	.
K048—Dissolved air flotation (DAF) float from the petroleum refining industry.	.....	.....	1*	4	K048	A	10 (4.54)
K049—Slop oil emulsion solids from the petroleum refining industry.	.....	.....	1*	4	K049	A	10 (4.54)
.	.	.	.	.	.	.	.
K051—API separator sludge from the petroleum refining industry.	.....	.....	1*	4	K051	A	10 (4.54)
.	.	.	.	.	.	.	.
K061—Emission control dust/sludge from the primary production of steel in electric furnaces.	.....	.....	1*	4	K061	A	10 (4.54)
K062—Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	.....	.....	1*	4	K062	A	10 (4.54)
K064—Acid plant blowdown slurry/sludge resulting from thickening of blowdown slurry from primary copper production.	.....	.....	1*	4	K064	A	10 (4.54)
K065—Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities.	.....	.....	1*	4	K065	A	10 (4.54)
K066—Sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production.	.....	.....	1*	4	K066	A	10 (4.54)
.	.	.	.	.	.	.	.
K069—Emission control dust/sludge from secondary lead smelting.	.....	.....	1*	4	K069	A	10 (4.54)
.	.	.	.	.	.	.	.
K086—Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	.....	.....	1*	4	K086	A	10 (4.54)

TABLE 302.4.—LIST OF HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES—Continued

[Note: All comments/notes are located at the end of this table]

Hazardous substance	CASRN	Regulatory synonyms	Statutory			Final RQ	
			RQ	Code†	RCRA waste no.	Category	Pounds (kg)
K100—Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	.....	.....	1*	4	K100	A	10 (4.54)

†Indicates the statutory source as defined by 1, 2, 3, or 4 below.

††No reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is equal to or exceeds 100 micrometers (0.004 inches).

1—Indicates that the statutory source for designation of this hazardous substance under CERCLA is CWA Section 311(b)(4).
2—Indicates that the statutory source for designation of this hazardous substance under CERCLA is CWA Section 307(a).
3—Indicates that the statutory source for designation of this hazardous substance under CERCLA is CAA Section 112.
4—Indicates that the statutory source for designation of this hazardous substance under CERCLA is RCRA Section 3001.
1*—Indicates that the 1-pound RQ is a CERCLA statutory RQ.

PART 355—EMERGENCY PLANNING AND NOTIFICATION

Authority: 42 U.S.C. 11002, 11004, and 11048.

5. The authority citation for part 355 continues to read as follows:

6. Part 355 is amended by removing and reserving footnote "f" from appendices A and B by revising the following entry in appendices A and B to read as set forth below.

APPENDIX A TO PART 355.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES

[Alphabetical order]

CAS No.	Chemical name	Notes	Reportable quantity* (pounds)	Threshold planning quantity (pounds)
624–83–9	Methyl Isocyanate	.....	10	500

*Only the statutory or final RQ is shown. For more information, see 40 CFR Table 302.4

APPENDIX B TO PART 355.—THE LIST OF EXTREMELY HAZARDOUS SUBSTANCES AND THEIR THRESHOLD PLANNING QUANTITIES

[CAS number order]

CAS No.	Chemical name	Notes	Reportable quantity* (pounds)	Threshold planning quantity (pounds)
624–83–9	Methyl Isocyanate	.....	10	500

*Only the statutory or final RQ is shown. For more information, see 40 CFR Table 302.4

[FR Doc. 93–15258 Filed 6–29–93; 8:45 am]

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federal register

Wednesday
June 30, 1993

Part IV

Department of the Interior

Fish and Wildlife Service

50 CFR Part 20

Migratory Bird Hunting Regulations for Shotshell Length, Shot Size and Shot Coatings; Proposed Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 20

RIN 1018–AB80

Migratory Bird Hunting: Migratory Bird Hunting Regulations for Restriction of Shotshell Length, Shot Size and Shot Coatings

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of intent and request for public comment.

SUMMARY: The principal purpose of this Notice is to advise the public of the U.S. Fish and Wildlife Service's (Service) intent to propose, and to ultimately promulgate, a rule that would restrict: (a) Possession and use of shotshells used in the hunting of migratory birds to 3½ inches fired length (3¼ inches loaded length); (b) shot size to No. T (0.200 inches in diameter); and (c) restrict shotshell pellet coating materials to those which are determined to be nontoxic. The purpose of this Notice is also to request comments from the public regarding these anticipated regulatory changes. A Service proposal to restrict shotshell length is consistent with current regulations, established early this century, restricting gauge size (diameter) of shotgun bores. A proposal to restrict shot size would stem from Service lethality studies that show No. T size shot to be the largest in use for waterfowling, of those that have been field tested, that exhibits acceptable harvest efficiency. A proposal to restrict shot coatings is consistent with recent regulations that require nontoxic shot to be used for the hunting of waterfowl and coots. Promulgation of a rule to effect these restrictions would be directed at realizing greater conservation of migratory game bird resources in North America. Regulations regarding shot size would become effective for the 1994–95 hunting season to allow supplies of shot sizes greater than size No. T. to be reduced or exhausted. Regulations regarding shell length and shot coatings would become effective March 1, 1994, or 30 days after publication of the final rulemaking.

DATES: Comments should be submitted as soon as possible and must be received by September 28, 1993.

ADDRESSES: All comments should be submitted to Director (FWS/MBMO), U.S. Fish and Wildlife Service, Department of the Interior, room 634, Arlington Square, 1849 C Street NW., Washington, DC 20240.

FOR FURTHER INFORMATION CONTACT: Dr. Keith A. Morehouse, Office of Migratory Bird Management, U.S. Fish and Wildlife Service, Department of the Interior, room 634, Arlington Square, 1849 C Street NW., Washington, DC 20240, or call 703/358–1714.

SUPPLEMENTARY INFORMATION:

Background

Until the early 1900s the practice of taking waterfowl and other migratory game birds with large-bore shotguns was widespread. Both stationary—and shoulder-mounted guns were commonly much larger bore than those used today, often 8 gauge and larger bores.

(Note: Bore size is an expression of the inside diameter of the barrel; bore diameter becomes larger as the gauge number becomes smaller. For example, the nominal bore diameter of a 12 gauge shotgun barrel is 0.730 inches, while the nominal bore diameter of a 10 gauge shotgun barrel is 0.776 inches.)

At a time of seemingly endless resources, in the late 1800s, great quantities of migratory game birds were harvested by market hunters for sale in the U.S. and elsewhere using these large bore weapons. This commercial practice, enhanced by the unregulated use of battery guns loaded with such missiles as nails and bolts, baiting, live decoys and unlimited or large bag limits, to mention just a few features of early market hunting, eventually contributed to the depletion of many migratory bird populations. As a result, in the period immediately following this unfettered commercial exploitation of the migratory bird resource, hunting regulations were instituted which allowed the sport hunting of only some of the many species of migratory birds. These regulations, which largely resulted from the Migratory Bird Convention with Great Britain (for Canada) signed in 1916, also provided for measures to ensure the future viability of migratory game bird populations. One of the regulatory requirements later made to effect protection of migratory bird populations was to restrict gauge/bore size of the shotgun used. According to a Mississippi Flyway Technical Section report, dated July 28, 1988, the first nationwide restrictions on the use of firearms and ammunition used in hunting migratory birds were established on July 31, 1918. These restrictions, established pursuant to the Migratory Bird Treaty Act, as amended (16 U.S.C. 703–711), provided that "Migratory game birds * * * may be taken during the open season with a gun only, not larger than 10 gauge, fired from the shoulder * * *" Subsequently, the regulations were changed to specify the use of a shotgun and the restrictions concerning gauge continue to the present time. However, current shotshell technology is changing which, in effect, circumvents these restrictions.

Discussion—Shell Length

Because the report referenced above contains a discussion pertinent to this proposal, and to the circumvention of the regulation, most of the relevant section is cited here, as follows: "Although Federal regulations established the maximum diameter (10-gauge) for shotgun shells for waterfowl hunting nationwide 70 years ago, the subject of shell length has never been addressed. Length obviously functions hand-in-hand with diameter in determining the amount of shot and powder contained in shells. Over the years, the 10-gauge restriction has been circumvented, in part, by increasing the length of shells. In 1912, before restrictions were implemented, the 8-gauge shell contained 1¾ ounces of lead shot * * * Most shotgun shells available in 1923 contained a maximum of 1¼ ounces of lead shot * * * In 1933, most shells still contained a maximum of 1¼ ounces of lead shot and their length did not exceed 2¾ inches * * * By comparison, today's 3-inch, 12-gauge shells contain a maximum of 1⅞ ounces of lead (1⅜ ounces of steel) shot and 3½-inch, 10-gauge shells contain a maximum of 2¼ ounces of lead (1¾ ounces of steel) shot—more than the 1¾ ounces of lead shot in 8-gauge shells that were outlawed * * *

"If shell diameter is to continue to be restricted nationwide by Federal regulations, length should also be restricted nationwide by Federal regulations.

"Although we make no specific recommendations as to the maximum allowable length of shotgun shells, we point out that 3½-inch, 10-gauge shells have been manufactured and marketed by all 3 [major] ammunition companies for many years. Also, we consider it impractical to establish maximum lengths that differ from gauge to gauge. In other words, the same maximum allowable length should apply to all shotgun shells regardless of diameter."

Since the above report was written, we now have factory 3" 12 gauge loads containing 2 ounces of lead shot and factory 3½" 12 gauge loads containing 2¾ ounces of lead shot. Thus, although some of the details of the above report section would change in a current assessment, the point made that evolving shotshell technology has resulted in shotshell payloads that

exceed the intent of the regulations is even more valid in 1993 than it was in 1988.

In 1988 also, the Service requested Mr. Tom Roster, the ballistics consultant for the Cooperative Nontoxic Shot Education Program (CONSEP, formerly known as the Cooperative Lead Poisoning Control Information Program (CLPCIP) to research the question of payloads of various gauges of shotguns in common use at the time bore size was restricted, and how this might relate to shell length restriction. Mr. Roster's findings are excerpted as follows:

"* * * I have not been able to determine precisely what the standard 8 gauge shell length and 8 gauge shot charge weight were at the time of regulations enactment. It appears that circa 1918 the maximum 8 gauge shell length was 3" and that the maximum lead shot charge weight * * * was 2 ounces.

"Given these details, a 3" 8 gauge shell would yield an approximate maximum possible volume of 1.6467 cubic inches for propellant, wadding and payload [Editorial note: see footnote at the end of the document for calculation of shotshell volume]. This assumes a nominal 8 gauge bore diameter of 0.836". Actual volume would vary with each given shotshell manufacturer's specific base wad height, tube wall thickness, and crimp style and length. All of these configurations would subtract from the total possible volume.

"After the 1918 gauge regulation prohibiting any gauge larger than 10, the standard 10 gauge load for many years was about 1¼ ounces of lead shot. In the 1920's the 3" 12 gauge shell was born with the term 'magnum' added. It was loaded with 1⅜ ounces of lead shot. Soon, this was upstaged by a 1⅝ oz. lead load in the 2⅞" 10 gauge case. Then Western Cartridge Company and Ithaca Gun Company cooperated to bring out a 3½" 10 gauge shell loaded with 2 ounces of lead shot. This in effect replaced the 2 oz. load of the old 8 gauge which was prohibited by [F]ederal law.

"The approximate maximum possible volume of 10 gauge in 3½" length with a nominal bore diameter of 0.776" is 1.6553 cubic inches. This is a one-half of one percent increase over the maximum possible volume of 3" 8 gauge.

"The approximate maximum possible volume of the new 3½" 12 gauge shell which Federal Cartridge Corporation cooperated with O. F. Mossberg and Sons to bring out in 1988 is 1.4649 cubic inches, assuming a nominal 12 gauge bore diameter of 0.730". The 3" 8 gauge and the 3½" 10 gauge offer a maximum possible volume increase over the 3½" 12 gauge of about 12% and 13% respectively.

"When gauge regulations were first enacted the easiest and most conceivable method of limiting payload (and thus killing potential in a sense) was to limit bore size (diameter). When loading lead, shell length and payload weight become self-limiting due to the ever greater deformation caused to lead shot * * *, plus the subsequent geometric increase in recoil in a shoulder firearm. When loading steel shot, shell length and recoil no longer are so limiting. Because current steel pellets are essentially non-deformable, pellet deformation considerations are now irrelevant. Because for a given volume of shot, a steel shot charge will weigh about a third less than a lead shot charge, recoil is reduced compared to lead, given equivalent muzzle velocities.

"The consideration is this: Since there are no regulations limiting shell length and given the onset of steel shot, shotshell inflation can now quite simply and practically increase longitudinally rather than in diameter. The net effect is the same: increased payload weight. Current 3½" 10 gauge lead and steel loadings are already the equivalent of the old, now outlawed 8 gauge loadings. The 3½" 12 gauge is close behind. In the 10 and 12 gauges, shells longer than 3½" could easily accomodate payloads in excess of the old 8 gauge loads outlawed in 1918."

In summary, on the basis of the information provided above and to comply with the intent of existing regulations, as well as concerns expressed by some members of the waterfowl hunting community, the Service feels it essential at this time to propose to prevent shotshell length from increasing beyond what it already has, i.e., a maximum of 3.5 inches fired length and 3.25 inches loaded length.

Discussion—Shot Size

The second issue this Notice addresses concerns limiting shot size, which, in this instance, cannot be discussed totally in isolation of the shell length issue. In recent years many hunters have focused their waterfowling attention on geese, most populations of which have prospered while duck numbers have generally declined. With greater hunter focus now on geese, and with the requirement for nontoxic shot and the need to increase pellet size to compensate for the lower specific gravity of steel when compared to lead pellets, there has been an increasing emphasis on the use of larger shot sizes. Size No. F (0.220") steel shot is currently the largest size steel shot commercially loaded and used by hunters for taking the larger geese and other game birds of comparable or larger size.

With these changes, among regulatory agencies and in some quarters of the waterfowl hunting community, there has developed a sensitivity to the potential for increased unretrieved harvest loss as a result of shooting at birds in the periphery of range, or even birds out-of-range, of the shotshell loads being used. This practice is also known as "skybusting." This practice, which has long been a recognized problem in waterfowl hunting, is encouraged by larger shot sizes and longer shells that are touted by some of the ammunition companies as having extended range performance. These claims are also made without benefit of field testing under actual hunting conditions. However, very few hunters are practiced enough to either judge long distances accurately or otherwise maximize the potential of the load they are using, a problem especially inherent with geese because of their large size. "Skybusting" commonly results only in embedding shot in birds with nonlethal or delayed lethal effects.

In this instance the concern and sensitivity is heightened by the fact that loadings of No. F steel shot have been found by CONSEP to have unacceptable unretrieved harvest rates at ranges beyond 55 yards primarily due to insufficient pattern density. In other words, No. F steel in both 10 and 12 gauge loadings have been determined not to be lethal on geese at distances beyond 55 yards primarily because pattern density at these ranges is not sufficient to consistently allow the minimum number of body strikes necessary to immediately dispatch the target bird. Since much goose shooting occurs at ranges beyond 55 yards, unacceptable levels of shot embedding and crippling of birds is the most likely result with use of No. F size shot in current loading configurations for legal shell sizes. This conclusion is supported by the field lethality studies carried out by the CONSEP ballistics consultant.

The preliminary analysis of lethality was provided to CONSEP members in 1988 in a report titled "Code Z (No. F Steel) Preliminary Summary Report." This report represents the only existing field testing of No. F steel in 3" 12 gauge configuration. The report states in part that, "Preliminary analysis of the data suggest that the principal problem with the Code Z load of No. F steel seems to be one of pattern density rather than pellet energy. The Code Z test load of 48 No. F steel pellets produced a 35–36

count pattern at 40 yards [inside a 30-inch diameter circle], while the No. T steel load previously tested by the CLPCIP [now CONSEP] contained 64 pellets and produced through the same chokes a 51–56 count pattern at the same distance. This is a 51% increase in pattern density for the No. T steel load over the No. F steel load. The rapid fall-off beyond 35–40 yards in bagging success and rapid increase in wounding losses exhibited by the No. F steel test load, was found to be closely correlated with pattern density ($P < 0.05$)."

At the time of conclusion of preliminary testing of this load, the ballistics consultant had recorded 133 Canada geese struck (visibly hit) over all distances. Of that number, 55 were knocked down and lost or otherwise unrecoverable, for an overall crippling loss rate of 41.3 percent, i.e., 41.3 birds lost per each 100 hit.

About this same time, the State of Illinois Department of Conservation published the results of a study in which the effectiveness, hunter preference and safety of 3" 12 gauge BBB (0.190"), T and F shot were compared for taking Canada geese (Anderson and Thornburg 1987). In this study, goose hunters were given shotgun shells, forms for recording data, and written instructions for testing. There were no direct controls over the field testing process. The results show that 29 experienced goose hunters spent 268 days afield, fired 1,152 of the test shells at a mean range of 47 yards and bagged 326 geese. For each 100 shells fired, the hunters reported that the 3 shells performed similarly in terms of geese hit (40.3–45.0), geese knocked down (30.7–35.1), geese bagged (25.4–31.1), and geese lost as cripples (13.9–14.9). Of geese struck, 76.0–78.0 and 63.0–69.0 were knocked down and bagged, respectively. The report conclusions state that "* * * size F steel shot (1) is not more effective than size BBB or size T steel for hunting Canada geese, (2) is not preferred by goose hunters, (3) poses a potential safety problem and (4), like lead buck shot, encourages 'skybusting'."

Safety and the inducement for "skybusting" associated with use of No. F steel shot were factors highlighted in letters to the Mississippi and Pacific Flyway Technical Sections dated February 19, 1988 by Winchester-Olin (Identical ltrs. sent to Chairmen of Mississippi and Pacific Flyway Technical Sections). Winchester-Olin, which is a member of CONSEP, tested No. F steel shot for safety and potential bodily injury considerations and concluded that it still retained 16.0, 5.3 and 1.4 foot-pounds of energy at 50, 100 and 200 yards, repectively, when launched at a nominal velocity of 1350 feet/second into ballistics gelatin. The letters go on to say that this is sufficient energy to potentially cause injury to persons in hunting situations where blinds are placed closer together than 150 yards. Such per-pellet energy levels may also damage the glass windows of cars, trucks and buildings within 150 to 200 yards of the shooter. Winchester-Olin also cited the increased potential for barrel damage, both to the shotgun barrels containing integral chokes and to barrels containing screw-in chokes. Although the two flyways are not on record as making such a recommendation, the Atlantic Waterfowl Council recommended in July 1988 that no shot larger than size T and no shell greater than 3½ inches in length be allowed for waterfowl hunting (NY State Dept. Env. Cons. memo to J. Proud from B. Swift, Oct. 1991).

Because of the initial poor efficiency and other potential problems shown by this particular 3" 12 gauge load, the CONSEP ballistics consultant was redirected to test 3½" loads of No. F steel shot in both 12 and 10 gauges. As a result, in 1990, the consultant provided a report titled "The exterior and terminal ballistic performance of a Federal production 3½" 12 gauge load of No. F steel shot." In part, the report concluded that "While the 3½" 12 gauge 1⅞ oz. (60-pellet) load exhibited improved performance over that measured previously for a 3" 12 gauge 1¼ oz. (48-pellet) load of No. F steel, high wounding losses were also found for the heavier load. Performance analyses measured an overall bagging rate of 74.5% and crippling rate of 25.5% for the 3½ 12 gauge 60-pellet No. F. steel load. The maximum distance the load was able to effect an efficient harvest on geese was found to be 55 yards. At longer distances it produced an inefficient harvest with high wounding losses. Crippling was found to increase significantly ($P < 0.05$) as distance increased with the rate at distances beyond 50 yards increasing to 36.6% on small/medium-sized geese, and 32.3% on large geese. Necropsies revealed excellent penetration performance for No. F. spherical-shaped steel projectiles on both medium-sized and large geese. The factor found most closely associated with the load's performance fall-off at long range was insufficient pattern density due to insufficient in-shell pellet count."

More recently, the CONSEP ballistics consultant has been engaged in testing size No. F steel shot in 3½" 10 gauge on large-, small- and medium-sized geese. Results thus far for large-sized geese parallel the earlier findings with 12 gauge 3" and 3½", however, the maximum effective range in this case has been pushed out another 5–10 yards. Although the sample was completed for large-sized geese, the ballistics consultant has been unable to complete the sample for the smaller body size components due to a low production year for most high latitude nesting geese this last season, in which collecting was suspended. Nevertheless, on the basis of what we know about body size factors, load characteristics and load performance from past CONSEP testing, the size No. F steel shot load never performed better and usually performed worse on medium- or small-bodied geese than for large-bodied geese. Thus, the Service believes it is justified at this point to propose a blanket restriction that would preclude the use of No. F size steel shot in all load configurations for all gauges currently legal for hunting migratory birds.

In addition to the concerns expressed above, the Winchester-Olin letters (cited above) also broached the ethical and practical question that relates both to shell length and shot size: "When is enough, enough?" The letter summarizes the known poor performance of No. F steel shot and then, on the basis of the established excellent performance of sizes No. BBB and No. T, concludes that there is no real need for No. F size steel shot in waterfowl hunting. However, the letter goes further in its exploration of these issues and the trends that have been established and the Service feels that this information should be communicated to the hunting community because the message is one that today is critically important to the image of hunters and hunting. After posing the question, Winchester goes on to explain: "Let us be frank and realistic for a moment. In the absence of pellet size restrictions, No. F steel doesn't have to be the end in steel pellet sizes. Winchester can make buckshot loads of steel shot available tomorrow. And we could alloy them with an Olin patented process used for military applications to make such loads lethal on geese to a minimum range of 100 yards (Tungsten Alloy).

"Additionally, we at Winchester have the technology today to expand the length of shotshell hulls in 12 ga. and 10 ga. much beyond their current lengths. This in turn would allow the manufacture of nontoxic shot loadings fully the equivalent of currently prohibited 8 ga. or 6 ga. lead loads. What are the ramifications of a 4" 12 ga.

shell or a 4" 10 ga. shell, for example? In this light, we see the development of a 3½" 12 ga. shell as only the beginning of a trend. Do we need or want higher and higher tech ammunition, larger and larger pellets, longer and longer shells, and more and more expense to the hunters?

"While the technology is available, we at Winchester are very concerned about the possible consequences for our wildlife resources and the safety of hunters, landowners, bystanders, and their buildings and equipment if ever longer and ever heavier loads are legal, are marketed, and become popular."

Winchester also advised that it was seriously considering, in light of its poor performance, discontinuing the sale of No. F size steel shotshells—and that they had so informed their competition. However, Winchester also advised that such a decision would be contingent upon the marketing actions of their competition and possible regulatory action of wildlife management authorities. It is understandable that Winchester did not follow through with discontinuation of sales of No. F size shotshells because of market demand and a lack of regulatory action. However, at the time, testing of No. F size shot had not been completed on the primary load configurations and the Service believed it was premature to move to restrict on a national basis. Nevertheless, the CONSEP has now essentially completed the necessary testing and the Service believes that the weight of evidence shows that there is no compelling reason to continue to allow the use of size No. F steel shot for waterfowling. Of course, some States were convinced much earlier that the existing evidence was sufficient to move to restrict and have done so. In fact, some States have restricted pellets at sizes less than No. T in steel.

In summary, the Service believes Winchester-Olin's question is valid and today is even more pressing: "* * * is there not a need here to examine and regulate trends in harvest technology which may not be in the best interests of the resource, hunting in general, and safety of all concerned?" Indeed, the Service and many others believe that increasingly longer and more powerful shotshells with larger-sized shot pellets that encourage hunters to shoot at extended ranges do not enhance the image of hunters and hunting, neither do they portend greater conservation of the migratory bird resource.

Discussion—Shot Coatings

The last issue which the Service intends to address in a proposed rulemaking relates to corrosion protection coatings for nontoxic shot pellets. In the Code of Federal Regulations, at part 20, § 20.134, the Service currently provides a procedure for approval of nontoxic shot. However, this procedure is considered not to pertain to coatings of various types applied to nontoxic shot, which prevent corrosion and potential fusion of the shot, insofar as the coatings typically are quite thinly applied and constitute a small percent of the pellet by weight. In other words, a coating should not alter the nontoxic properties of nontoxic shot. Nevertheless, the concern is that the coating, although quite necessary and present in small amount, may in and of itself be toxic in small amounts and pose a hazard to migratory birds. Thus, the Service proposes to codify its informal policy on approval of the types of steel shot coatings with which a waterfowler may hunt. It is important to note that the Service cannot dictate makeup of the shot an ammunition manufacturer can make and sell, only the makeup of a particular ammunition a waterfowl hunter may use.

Earlier, the Service responded to a request from industry and approved for use in waterfowling both copper and nickel coatings for steel shot. This request specified that coating thickness would be, typically, approximately 2 ten-thousandths of an inch thick (0.0002") and 1 percent or less of the weight of the shot. Previously, these two coatings had been the only ones approved for waterfowling since May of 1986. More recently, the Service received a request to approve zinc as a coating and learned, in the process of acquiring more information, that one ammunition manufacturer was already marketing a zinc coated steel shot and that another was planning a zinc coated steel shot for this coming season (1993–94). Apparently, despite past efforts to get out the information, there was no recognition of the Service's role in this aspect of nontoxic shot regulation in some quarters and a definite recognition of the role in others. Thus, the Service perceives there is a need to establish a regulation which allows only approved coatings to be used on pellets utilized in waterfowl hunting. This regulation would also set out requirements for the type and quality information for the coating that would be necessary in order for the Service to consider approval. It would be necessary for ammunition manufacturers to provide the Service with this information. Briefly, the Service would request the specifics on the chemical compound(s) to be used and a complete analysis of potential toxicity, as well as the thickness of the coating(s) and percentage of the coating in comparison to the total shot weight. The Service would also seek an assessment explaining why the manufacturer believes the coating does not pose toxicity problems for wildlife. There would likely not be a requirement for toxicity testing (feeding tests) unless background research of the chemical compounds making up the coatings was unclear with regard to potential effects. Some compounds can be toxic in small amounts and, if indicated, the Service may require small-scale testing.

Because the shot coating policy has been in effect for approximately the last six years, the Service intends to propose to make, after notice and comment, that particular regulation effective immediately upon publication in the Federal Register. The Service will also propose to restrict shot shell length as early as possible to prevent difficulties regarding any longer shell fabrication plans in progress. For the above, the Service intends that the effective date will be approximately March 1, 1994. In contrast, size No. F shot has been marketed for the past several years and hunters, distributers and manufacturers should be allowed an opportunity to reduce size No. F supplies prior to making their use illegal for waterfowling. Thus, the Service will propose to make the beginning of the 1994–95 waterfowl hunting season the effective date for limiting shot size.

In summary, this Notice provides the public early opportunity to comment on a future proposal to, for migratory bird hunting: (a) Limit the maximum length of shotshells used to 3.5 inches fired length and 3.25 inches loaded length, (b) limit the maximum size of shot used to No. T (0.200"), and (c), in addition to the basic type of nontoxic shot, regulate the type of shot coatings that may be used by hunters.

Footnote: For any given length and diameter of shotshell there is a maximum volume, or payload, which must accomodate wad, propellant, shot pellets and the crimp. The volume (V) of that shell as a regular cylinder is arrived at by applying the formula $V=3.1416(r^2)(h)$, where "r" is the radius and "h" is the height of the cylinder.

Literature Cited

Anderson, W.L., and D.D. Thornburg. 1987. Effectiveness, hunter preference, and safety of large steel shot for hunting Canada geese in Illinois. Periodic Rpt. No. 55, Illinois Dept. Cons., Champaign, IL. 8 pp. + attach.

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Roster, T. 1990. The exterior and terminal ballistic performance of a Federal production 3½" 12 gauge load of No. F steel shot. Cooperative Nontoxic Shot Education Program, Iowa Department of Natural Resources, Des Moines, IA. 13 pp. + attach.

Dated: April 8, 1993.

Richard N. Smith,

Director, Fish and Wildlife Service.

[FR Doc. 93–15246 Filed 6–29–93; 8:45 am]

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Federal Register

Wednesday
June 30, 1993

Part V

Department of Labor

Occupational Safety and Health Administration

29 CFR Part 1910
Air Contaminants; Rule

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Part 1910

RIN 1218–AB26

Air Contaminants

AGENCY: Occupational Safety and Health Administration (OSHA), Labor.

ACTION: Final rule.

SUMMARY: This document announces the revocation of the exposure limits specified in the "Final rule limits" columns of Table Z–1–A of 29 CFR 1910.1000. This implements the Court of Appeals decision in *AFL–CIO* v. *OSHA*, 965 F.2d 962 (11th Cir., 1992), vacating those limits. Enforcement of those limits was suspended starting March 23, 1993. The permissible exposure limits specified in the "Transitional limits" columns of Table Z–1–A and in Tables Z–2 and Z–3 of 29 CFR 1910.1000 have remained in effect and are being enforced. In order to effectuate this action, Table Z–1–A is being removed from 29 CFR 1910.1000 and a Table Z–1 is being added which includes the exposure limits which were included in Table Z–1 before 1989 and which were published in the Transitional limits columns of Table Z–1–A.

EFFECTIVE DATE: June 30, 1993.

FOR FURTHER INFORMATION CONTACT: Mr. James F. Foster, OSHA, U.S. Department of Labor, Office of Public Affairs, room N–3647, 200 Constitution Avenue, NW., Washington, DC 20210. Telephone (202) 219–8151.

SUPPLEMENTARY INFORMATION: OSHA published its final rule on Air Contaminants on January 19, 1989 at 54 FR 2332–2983. That rule amended 29 CFR 1910.1000 by lowering 212 of OSHA's existing permissible exposure limits (PELs) for toxic substances and setting PELs for 164 toxic substances which had been previously unregulated. The final rule left unchanged the PELs for 51 of the 428 substances considered for change, and raised one exposure limit.

That rulemaking did not consider, and consequently left unchanged, 168 other substances which were listed in the tables of 29 CFR 1910.1000. It also did not consider and left unchanged the 24 substances which had their own comprehensive single substance standards codified in 29 CFR 1910.1001–1048.

On July 7, 1992, the Eleventh Circuit Court of Appeals issued a decision stating that the revised air contaminants standard was vacated. *American Federation of Labor and Congress of Industrial Organizations, et al.* v *Occupational Safety and Health Administration Department of Labor (AFL–CIO* v. *OSHA)*, 965 F.2d 962 (11th Cir. 1992). At OSHA's request, the Eleventh Circuit did not issue its mandate or order enforcing its decision while the possibility of appeal was pursued. Consequently the new limits remained in effect and enforced past July 7, 1992.

On October 23, 1992 the Eleventh Circuit denied OSHA's request for rehearing. After consideration, the Government determined not to petition the Supreme Court for review. March 22, 1993 was the last date to file a petition for review in the Supreme Court. As none was filed, there was no longer a basis for OSHA to request the Eleventh Circuit to further stay the issuance of its mandate.

Accordingly, OSHA directed its compliance officers to cease enforcing the new exposure limits (376 more protective, 1 less protective) starting March 23, 1993.

In consequence, as of March 23, 1993, OSHA resumed enforcing, and employers were required to comply with, the air contaminant exposure limits that were in effect prior to the issuance of the new limits on January 19, 1989. These are the exposure limits (both airborne limits and skin designations) which are located in the "Transitional limits" columns of 29 CFR 1910.1000, Table Z–1–A and the limits located in Tables Z–2 and Z–3.

Section 1910.1000(f)(3)(iii) specifically provides that if the new limits in the Final Rule limits columns of Table Z–1–A are vacated, then the Transitional limits columns of Table Z–1–A and Tables Z–2 and Z–3 remain in effect. This includes the textual language of § 1910.1000 (a)–(f) relevant to the Transitional limits of Table Z–1–A and relevant to Tables Z–2 and Z–3. That text is in substance what was in effect prior to the issuance of the new limits.

The Court of Appeals decision does not directly affect the 25 States operating their own OSHA-approved occupational safety and health State plans as their standards were adopted under authority of applicable State law. The 25 State plan States are: Alaska, Arizona, California, Connecticut, Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, New Mexico, New York, Nevada, North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virgin Islands, Virginia, Washington and Wyoming. (Connecticut and New York are public sector only plans.)

Some States are continuing to enforce the 1989 Air Contaminants standard or an "at least as effective" equivalent. However, in other States the authorizing legislation or other circumstances will require the State to parallel Federal standards-setting actions. Since section 18 of the OSH Act permits, but does not require, the State plan States to maintain standards which are more stringent than those of OSHA, each State must make its own determination based on its legal authority and other circumstances. Accordingly, the changes to the OSHA Air Contaminants standards set forth in today's **Federal Register** notice do not necessarily apply in the State plan States listed above.

Changes to CFR

In order to implement the Court's decision in a way that is clear and convenient to the public, OSHA is making a number of changes to the Code of Federal Regulations. In 1989, OSHA replaced Table Z–1 with Table Z–1–A. Table Z–1–A included the substantive changes of incorporating 164 substances which had not been regulated before and adding "Final rule limits" columns which included the limits for those 164 plus 212 new limits for substances which had pre-existing limits.

In addition, Table Z–1–A had non-substantive format changes for the convenience of employers and employees. OSHA included in alphabetical order in Table Z–1–A every substance it regulated in 29 CFR part 1910, subpart Z. This had not been done in the earlier Table Z–1. Consequently, it listed substances covered by Table Z–1–A, Tables Z–2 and Z–3, and the substances regulated by the substance specific standards in 29 CFR 1910.1001–1048. The "Transitional limits" columns also included the old exposure limits which had existed in Table Z–1.

As a result of these style changes, the public could locate in one place a list of all the substances regulated by subpart Z, along with the exposure limit or a cross reference to where the exposure limit and other regulatory provisions concerning the substance could be found. Table Z–1–A also presented the Chemical Abstract Service (CAS) numbers for all substances regulated by subpart Z as a further convenience for the public.

In order to carry out the Court's decision, OSHA is removing Table Z–1–A from the CFR, which of course includes removing its Final rule limits columns which contained the 376 new or more protective limits and one new but higher limit. It is replaced by a new

Table Z–1 which does not contain the limits which were in the Final rule limits columns. The new Table Z–1 contains the limits which were in effect prior to 1989 in Table Z–1, and which are also the limits which were in the Transitional limits columns of Table Z–1–A.

In this manner, OSHA is implementing the Eleventh Circuit's decision and removing from the CFR the vacated limits. It is retaining in the CFR the limits in effect prior to the issuance of the 1989 Air Contaminants standard which are the limits that are currently enforceable.

However, OSHA is retaining the non-substantive format advantages of Table Z–1–A for the convenience of the public. The new Table Z–1 lists all the substances regulated by Subpart Z with their CAS numbers. If a regulated substance's exposure limit is not included in the new Table Z–1, then a cross reference to the location of that substance's limit is included. In this manner, employers and employees will be in a better position to find the toxic substance exposure limits which would cover them.

OSHA is also deleting the footnotes to Table Z–1–A which were only relevant to the Final rule limits. It is retaining and relettering those footnotes which are relevant to Table Z–1 and is making a few style changes for format consistency.

Tables Z–2 and Z–3 were not substantively changed when the new Air Contaminants standard was issued in 1989, and they are not being substantively changed now. However, as a number of errors have existed in these tables, OSHA is using this **Federal Register** Notice as an opportunity to correct those errors.

Specifically, the entries and footnotes for benzene, cadmium and formaldehyde in Table Z–2 are corrected to reflect their current legal status and the status of their single substance standards. Errors in alphabetization are corrected and the footnotes relettered. In Table Z–3, the formulas for the coal dust entries are presented more clearly, the tremolite cross-reference is corrected, certain spelling errors are corrected, the format is made clearer and the footnotes are relettered. OSHA is reprinting the entire tables Z–1, Z–2 and Z–3 in the **Federal Register** with the corrections made, for the convenience of the public.

In addition, to implement the court's decision, it is necessary to make some changes to the regulatory text. Specifically, it is necessary to delete from the beginning of 29 CFR 1910.1000, the language which is applicable to the exposure limits in the Final rule limits columns of Table Z–1–A. Accordingly, OSHA is removing from 29 CFR 1910.1000, paragraph (a)(3) on the obligation to comply with the Final rule limits, paragraph (a)(5) on definitions applicable to the Final rule limits, and most of paragraph (f) on the starting dates and transitional provisions relevant to the Final rule limits.

Retained are the provisions necessary to effectuate the exposure limits in Tables Z–1, Z–2 and Z–3. These provisions are substantively the same as the equivalent provisions which were in effect prior to the issuance of the 1989 Air Contaminants Final Rule and retain the same lettering. A few minor, non-substantive style changes have been made. Thus, paragraphs (a)(1) and (a)(2) which define the compliance requirements of the exposure limits in Table Z–1 (the Transitional limits of Table Z–1–A), paragraph (b) which defines the compliance requirements of the exposure limits in Table Z–2, and paragraph (c) which defines the compliance requirements of the exposure limits in Table Z–3 are all retained.

OSHA followed and enforced the following practice, which it set out explicitly in the CFR and the **Federal Register** during the PELs rulemaking. In circumstances where there was no available instrumentation to measure a substance instantaneously, OSHA inspectors and employers were permitted to measure the ceiling as a time weighted average over 15 minutes. OSHA is retaining that explicit provision, which was located in paragraph (a)(5)(iii) (which is being removed) and inserting it into paragraph (a)(1).

OSHA is removing paragraph (a)(6) which had explicitly stated that the terms "substance," "air contaminant" and "material" are equivalent. It remains the case that they are equivalent for purposes of § 1910.1000. But as this is now generally known and clear from the context, it is unnecessary to retain this definition.

Paragraph (d) concerning the computation formulae, and paragraph (e) concerning the preference for engineering controls are retained unchanged. These provisions were in effect prior to 1989, remained in effect after the 1989 Final rule and continue in effect. These provisions were not opened for comment in the rulemaking which led to the 1989 Final rule.

A new paragraph (f) has been inserted to replace the removed paragraph (f). The new paragraph is informational only. It informs the public that the exposure limits contained in Tables Z–1, Z–2 and Z–3 have been in effect since May 29, 1971.

Various changes are also being made to the authority citation for subpart Z to reflect the removal of the Final rule limits.

Other Issues

1. Carbon dioxide was the one substance where OSHA raised the TWA from 5000 to 10,000 ppm but incorporated a 30,000 ppm STEL. As the Court vacated that STEL and the new TWA, it is necessary to return to the 5000 ppm 8 hour TWA. This change is made in Table Z–1.

2. The AFL–CIO and National Grain and Feed Association (NGFA), which had reached a settlement with OSHA on the new grain dust limit, moved the Eleventh Circuit to rule that its decision did not disturb the settlement. The Court, on February 1, 1993, granted the motion and stated, "The settlement agreement remains in full force and effect insofar as this Court is concerned with the appeal filed in this matter." Accordingly, OSHA will continue to enforce the grain dust limit pursuant to the settlement agreement. Therefore, Table Z–1 contains the grain dust limit of 10 mg/m^3 which was issued as a new limit in 1989.

3. Table Z–3 has always contained an entry for "Inert or Nuisance dust." The American Conference of Governmental Industrial Hygienists (ACGIH), the source of that limit, had always intended it to cover both organic and inorganic particulates not otherwise regulated. This is clear from the Appendix D to the 1968 and subsequent editions of the "Threshold Limit Values" by ACGIH, which lists as nuisance particulates such organic substances as cellulose, vegetable oil mists, starch and sucrose. OSHA had also intended that entry to cover organic dusts and issued many citations reflecting that view.

However, the Nuisance Dust entry appeared in a Table which was titled "Mineral Dusts." The Occupational Safety and Health Review Commission, in the case of Bunge Corp. 12 OSHC 1785 (1986), held that because of the location of the nuisance dust entry in Table Z–3, inadequate notice was given to employers that the limit applied to organic dusts.

OSHA made it clear when it issued the Final Air Contaminants rule, that it intended this limit, which was left unchanged, to apply to both organic and inorganic particulates or dusts. See 54 FR 2597 (January 19, 1989). OSHA also gave notice to employers by renaming the Inert or Nuisance Dust limit as the

Particulates Not Otherwise Regulated (PNOR) limit and placing it in Table Z–1–A. To provide additional notice, it left the same entry in Table Z–3 under its old name, and added a footnote indicating it applied to organic as well as inorganic dusts.

These were format changes to reflect OSHA's and ACGIH's intentions for over 20 years, and to give full notice to employers that organic dusts and particulates are covered by the standard; they were not substantive changes. Accordingly, in both Table Z–1 and Z–3, OSHA is retaining the equivalent PNOR and Nuisance Dust entries with footnotes to make clear that organic and inorganic particulates or dusts are covered.

OSHA continues to believe that many of the old limits which it will now be enforcing are out of date (they predate 1968) and not sufficiently protective of employee health based on current scientific information and expert recommendations. In addition, many of the substances for which OSHA has no PELs present serious health hazards to employees.

OSHA finds that notice and comment are unnecessary for these changes because they implement the final decision of the Eleventh Circuit Court of Appeals. For the same reason, good cause is found for these changes to take immediate effect.

This document was prepared under the direction of David C. Zeigler, Acting Assistant Secretary of Labor, 200 Constitution Avenue, NW., Washington, DC 20210.

It is issued under sections 4,6 and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655 657), 5 U.S.C. 553, Secretary Labor's Order 1–90 (55 FR 9033) and 29 CFR part 1911.

Signed at Washington, DC, this 24 day of June, 1993.

David C. Zeigler,

Acting Assistant Secretary of Labor.

PART 1910—[AMENDED]

Part 1910 of title 29 of the Code of Federal Regulation is hereby amended as follows:

Subpart Z—Toxic and Hazardous Substances

1. The authority citation for subpart Z of part 1910 is revised to read in relevant part as follows:

Authority: Secs. 6, 8 Occupational Safety and Health Act, 29 U.S.C. 655, 657; Secretary of Labor's Order 12–71 (36 FR 8754), 9–76 (41 FR 25059), 9–83 (48 FR 35736) or 1–90 (55 FR 9033), as applicable; and 29 CFR part 1911.

All of subpart Z issued under section 6(b) of the Occupational Safety and Health Act, except those substances which have exposure limits listed in Tables Z–1, Z–2 and Z–3 of 29 CFR 1910.1000. The latter were issued under section 6(a) (29 U.S.C. 655(a)).

Section 1910.1000, Tables Z–1, Z–2 and Z–3 also issued under 5 U.S.C. 553. Section 1910.1000, Tables Z–1, Z–2 and Z–3 not issued under 29 CFR part 1911 except for the arsenic (organic compounds), benzene, and cotton dust listings.

* * * * *

§ 1910.1000 [Amended]

2. Section 1910.1000 is revised to read as follows:

§ 1910.1000 Air contaminants.

An employee's exposure to any substance listed in Tables Z–1, Z–2, or Z–3 of this section shall be limited in accordance with the requirements of the following paragraphs of this section.

(a) *Table Z–1.* (1) *Substances with limits preceded by "C"—Ceiling Values.* An employee's exposure to any substance in Table Z–1, the exposure limit of which is preceded by a "C", shall at no time exceed the exposure limit given for that substance. If instantaneous monitoring is not feasible, then the ceiling shall be assessed as a 15-minute time weighted average exposure which shall not be exceeded at any time during the working day.

(2) *Other substances—8-hour Time Weighted Averages.* An employee's exposure to any substance in Table Z–1, the exposure limit of which is not preceded by a "C", shall not exceed the 8-hour Time Weighted Average given for that substance in any 8-hour work shift of a 40-hour work week.

(b) *Table Z–2.* An employee's exposure to any substance listed in Table Z–2 shall not exceed the exposure limits specified as follows:

(1) *8-hour time weighted averages.* An employee's exposure to any substance listed in Table Z–2, in any 8-hour work shift of a 40-hour work week, shall not exceed the 8-hour time weighted average limit given for that substance in Table Z–2.

(2) *Acceptable ceiling concentrations.* An employee's exposure to a substance listed in Table Z–2 shall not exceed at any time during an 8-hour shift the acceptable ceiling concentration limit given for the substance in the table, except for a time period, and up to a concentration not exceeding the maximum duration and concentration allowed in the column under "acceptable maximum peak above the acceptable ceiling concentration for an 8-hour shift."

(3) *Example.* During an 8-hour work shift, an employee may be exposed to a concentration of Substance A (with a 10 ppm TWA, 25 ppm ceiling and 50 ppm peak) above 25 ppm (but never above 50 ppm) only for a maximum period of 10 minutes. Such exposure must be compensated by exposures to concentrations less than 10 ppm so that the cumulative exposure for the entire 8-hour work shift does not exceed a weighted average of 10 ppm.

(c) *Table Z–3.* An employee's exposure to any substance listed in Table Z–3, in any 8-hour work shift of a 40-hour work week, shall not exceed the 8-hour time weighted average limit given for that substance in the table.

(d) *Computation formulae.* The computation formula which shall apply to employee exposure to more than one substance for which 8-hour time weighted averages are listed in subpart Z of 29 CFR part 1910 in order to determine whether an employee is exposed over the regulatory limit is as follows:

(1)(i) The cumulative exposure for an 8-hour work shift shall be computed as follows:

$$E=(C_aT_a+C_bT_b+\ldots C_nT_n)\div 8$$

Where:

E is the equivalent exposure for the working shift.

C is the concentration during any period of time T where the concentration remains constant.

T is the duration in hours of the exposure at the concentration C.

The value of E shall not exceed the 8-hour time weighted average specified in subpart Z of 29 CFR part 1910 for the substance involved.

(ii) To illustrate the formula prescribed in paragraph (d)(1)(i) of this section, assume that Substance A has an 8-hour time weighted average limit of 100 ppm noted in Table Z–1. Assume that an employee is subject to the following exposure:

Two hours exposure at 150 ppm
Two hours exposure at 75 ppm
Four hours exposure at 50 ppm

Substituting this information in the formula, we have

$$(2\times150+2\times75+4\times50)\div8=81.25 \text{ ppm}$$

Since 81.25 ppm is less than 100 ppm, the 8-hour time weighted average limit, the exposure is acceptable.

(2)(i) In case of a mixture of air contaminants an employer shall compute the equivalent exposure as follows:

$$E_m=(C_1+L_1+C_2+L_2)+\ldots(C_n+L_n)$$

Where:

E_m is the equivalent exposure for the mixture.

C is the concentration of a particular contaminant.

L is the exposure limit for that substance specified in subpart Z of 29 CFR part 1910.

The value of E_m shall not exceed unity (1).

(ii) To illustrate the formula prescribed in paragraph (d)(2)(i) of this section, consider the following exposures:

Substance	Actual concentration of 8-hour exposure (ppm)	8-hour TWA PEL (ppm)
B	500	1,000
C	45	200
D	40	200

Substituting in the formula, we have:

E_m=500÷1,000+45÷200+40÷200

E_m=0.500+0.225+0.200

E_m=0.925

Since E_m is less than unity (1), the exposure combination is within acceptable limits.

(e) To achieve compliance with paragraphs (a) through (d) of this section, administrative or engineering controls must first be determined and implemented whenever feasible. When such controls are not feasible to achieve full compliance, protective equipment or any other protective measures shall be used to keep the exposure of employees to air contaminants within the limits prescribed in this section. Any equipment and/or technical measures used for this purpose must be approved for each particular use by a competent industrial hygienist or other technically qualified person. Whenever respirators are used, their use shall comply with 1910.134.

(f) *Effective dates.* The exposure limits specified have been in effect with the method of compliance specified in paragraph (e) of this section since May 29, 1971.

TABLE Z–1.—LIMITS FOR AIR CONTAMINANTS

Substance	CAS No. (c)	ppm (a) [1]	mg/m³ (b) [1]	Skin designation
Acetaldehyde	75–07–0	200	360	
Acetic acid	64–19–7	10	25	
Acetic anhydride	108–24–7	5	20	
Acetone	67–64–1	1000	2400	
Acetonitrile	75–05–8	40	70	
2-Acetylaminofluorine; see 1910.1014	53–96–3			
Acetylene dichloride; see 1,2-Dichloroethylene.				
Acetylene tetrabromide	79–27–6	1	14	
Acrolein	107–02–8	0.1	0.25	
Acrylamide	79–06–1	.....	0.3	X
Acrylonitrile; see 1910.1045	107–13–1			
Aldrin	309–00–2	.....	0.25	X
Allyl alcohol	107–18–6	2	5	X
Allyl chloride	107–05–1	1	3	
Allyl glycidyl ether (AGE)	106–92–3	(C)10	(C)45	
Allyl propyl disulfide	2179–59–1	2	12	
alpha-Alumina	1344–28–1			
Total dust		.....	15	
Respirable fraction		.....	5	
Aluminum, metal (as Al)	7429–90–5			
Total dust		.....	15	
Respirable fraction		.....	5	
4-Aminodiphenyl; see 1910.1011	92–67–1			
2-Aminoethanol; see Ethanolamine.				
2-Aminopyridine	504–29–0	0.5	2	
Ammonia	7664–41–7	50	35	
Ammonium sulfamate	7773–06–0			
Total dust		.....	15	
Respirable fraction		.....	5	
n-Amyl acetate	628–63–7	100	525	
sec-Amyl acetate	626–38–0	125	650	
Aniline and homologs	62–53–3	5	19	X
Anisidine (o-, p-isomers)	29191–52–4	.....	0.5	X
Antimony and compounds (as Sb)	7440–36–0	.....	0.5	
ANTU (alpha Naphthylthiourea)	86–88–4	.....	0.3	
Arsenic, inorganic compounds (as As); see 1910.1018	7440–38–2			
Arsenic, organic compounds (as As)	7440–38–2	.....	0.5	
Arsine	7784–42–1	0.05	0.2	
Asbestos; see 1910.1001	[4]			
Azinphos-methyl	86–50–0	.....	0.2	X
Barium, soluble compounds (as Ba)	7440–39–3	.....	0.5	
Barium sulfate	7727–43–7			
Total dust		.....	15	
Respirable fraction		.....	5	
Benomyl	17804–35–2			
Total dust		.....	15	
Respirable fraction		.....	5	
Benzene; see 1910.1028	71–43–2			
See Table Z–2 for the limits applicable in the operations or sectors excluded in 1910.1028 [3]				
Benzidine; see 1910.1010	92–87–5			
p-Benzoquinone; see Quinone.				

TABLE Z–1.—LIMITS FOR AIR CONTAMINANTS—Continued

Substance	CAS No. (c)	ppm (a) [1]	mg/m³ (b) [1]	Skin designation
Benzo(a)pyrene; see Coal tar pitch volatiles..				
Benzoyl peroxide	94–36–0		5	
Benzyl chloride	100–44–7	1	5	
Beryllium and beryllium compounds (as Be)	7440–41–7		([2])	
Biphenyl; see Diphenyl.				
Bismuth telluride, Undoped	1304–82–1			
Total dust			15	
Respirable fraction			5	
Boron oxide	1303–86–2			
Total dust			15	
Boron trifluoride	7637–07–2	(C)1	(C)3	
Bromine	7726–95–6	0.1	0.7	
Bromoform	75–25–2	0.5	5	X
Butadiene (1,3-Butadiene)	106–99–0	1000	2200	
Butanethiol; see Butyl mercaptan.				
2-Butanone (Methyl ethyl ketone)	78–93–3	200	590	
2-Butoxyethanol	111–76–2	50	240	X
n-Butyl-acetate	123–86–4	150	710	
sec-Butyl acetate	105–46–4	200	950	
tert-Butyl acetate	540–88–5	200	950	
n-Butyl alcohol	71–36–3	100	300	
sec-Butyl alcohol	78–92–2	150	450	
tert-Butyl alcohol	75–65–0	100	300	
Butylamine	109–73–9	(C)5	(C)15	X
tert-Butyl chromate (as CrO_3)	1189–85–1		(C)0.1	X
n-Butyl glycidyl ether (BGE)	2426–08–6	50	270	
Butyl mercaptan	109–79–5	10	35	
p-tert-Butyltoluene	98–51–1	10	60	
Cadmium (as Cd); see 1910.1027	7440–43–9			
Calcium carbonate	1317–65–3			
Total dust			15	
Respirable fraction			5	
Calcium hydroxide	1305–62–0			
Total dust			15	
Respirable fraction			5	
Calcium oxide	1305–78–8		5	
Calcium silicate	1344–95–2			
Total dust			15	
Respirable fraction			5	
Calcium sulfate	7778–18–9			
Total dust			15	
Respirable fraction			5	
Camphor, synthetic	76–22–2		2	
Carbaryl (Sevin)	63–25–2		5	
Carbon black	1333–86–4		3.5	
Carbon dioxide	124–38–9	5000	9000	
Carbon disulfide	75–15–0		([2])	
Carbon monoxide	630–08–0	50	55	
Carbon tetrachloride	56–23–5		([2])	
Cellulose	9004–34–6			
Total dust			15	
Respirable fraction			5	
Chlordane	57–74–9		0.5	X
Chlorinated camphene	8001–35–2		0.5	X
Chlorinated diphenyl oxide	55720–99–5		0.5	
Chlorine	7782–50–5	(C)1	(C)3	
Chlorine dioxide	10049–04–4	0.1	0.3	
Chlorine trifluoride	7790–91–2	(C)0.1	(C)0.4	
Chloroacetaldehyde	107–20–0	(C)1	(C)3	
a-Chloroacetophenone (Phenacyl chloride)	532–27–4	0.05	0.3	
Chlorobenzene	108–90–7	75	350	
o-Chlorobenzylidene malononitrile	2698–41–1	0.05	0.4	
Chlorobromomethane	74–97–5	200	1050	
2-Chloro-1,3-butadiene; see beta-Chloroprene.				
Chlorodiphenyl (42% Chlorine) (PCB)	53469–21–9		1	X
Chlorodiphenyl (54% Chlorine) (PCB)	11097–69–1		0.5	X
1-Chloro-2,3-epoxypropane; see Epichlorohydrin.				
2-Chloroethanol; see Ethylene chlorohydrin.				
Chloroethylene; see Vinyl chloride.				
Chloroform (Trichloromethane)	67–66–3	(C)50	(C)240	
bis(Chloromethyl) ether; see 1910.1008	542–88–1			

TABLE Z–1.—LIMITS FOR AIR CONTAMINANTS—Continued

Substance	CAS No. (c)	ppm (a) [1]	mg/m³ (b) [1]	Skin designation
Chloromethyl methyl ether; see 1910.1006	107–30–2			
1-Chloro-1-nitropropane	600–25–9	20	100	
Chloropicrin	76–06–2	0.1	0.7	
beta-Chloroprene	126–99–8	25	90	X
2-Chloro-6-(trichloromethyl) pyridine	1929–82–4			
Total dust			15	
Respirable fraction			5	
Chromic acid and chromates (as CrO_3)	(4)		(2)	
Chromium (II) compounds. (as Cr)	7440–47–3		0.5	
Chromium (III) compounds. (as Cr)	7440–47–3		0.5	
Chromium metal and insol. salts (as Cr)	7440–47–3		1	
Chrysene; see Coal tar pitch volatiles.				
Clopidol	2971–90–6			
Total dust			15	
Respirable fraction			5	
Coal dust (less than 5% SiO_2), respirable fraction			(3)	
Coal dust (greater than or equal to 5% SiO_2), respirable fraction.			(3)	
Coal tar pitch volatiles (benzene soluble fraction), anthracene, BaP, phenanthrene, acridine, chrysene, pyrene.	65966–93–2		0.2	
Cobalt metal, dust, and fume (as Co)	7440–48–4		0.1	
Coke oven emissions; see 1910.1029.				
Copper	7440–50–8			
Fume (as Cu)			0.1	
Dusts and mists (as Cu)			1	
Cotton dust[5]; see 1910.1043			1	
Crag herbicide (Sesone)	136–78–7			
Total dust			15	
Respirable fraction			5	
Cresol, all isomers	1319–77–3	5	22	X
Crotonaldehyde	123–73–9; 4170–30–3	2	5	
Cumene	98–82–8	50	245	X
Cyanides (as CN)	(4)		5	
Cyclohexane	110–82–7	300	1050	
Cyclohexanol	108–93–0	50	200	
Cyclohexanone	108–94–1	50	200	
Cyclohexene	110–83–8	300	1015	
Cyclopentadiene	542–92–7	75	200	
2,4-D (Dichlorophenoxyacetic acid)	94–75–7		10	
Decaborane	17702–41–9	0.05	0.3	X
Demeton (Systox)	8065–48–3		0.1	X
Diacetone alcohol (4-Hydroxy-4-methyl-2-pentanone)	123–42–2	50	240	
1,2-Diaminoethane; see Ethylenediamine.				
Diazomethane	334–88–3	0.2	0.4	
Diborane	19287–45–7	0.1	0.1	
1,2-Dibromo-3-chloropropane (CBCP); see 1910.1044	96–12–8			
1,2-Dibromoethane; see Ethylene dibromide.				
Dibutyl phosphate	107–66–4	1	5	
Dibutyl phthalate	84–74–2		5	
o-Dichlorobenzene	95–50–1	(C)50	(C)300	
p-Dichlorobenzene	106–46–7	75	450	
3,3'-Dichlorobenzidine; see 1910.1007	91–94–1			
Dichlorodifluoromethane	75–71–8	1000	4950	
1,3-Dichloro-5,5-dimethyl hydantoin	118–52–5		0.2	
Dichlorodiphenyltrichloroethane (DDT)	50–29–3		1	X
1,1-Dichloroethane	75–34–3	100	400	
1,2-Dichloroethane; see Ethylene dichloride.				
1,2-Dichloroethylene	540–59–0	200	790	
Dichloroethyl ether	111–44–4	(C)15	(C)90	X
Dichloromethane; see Methylene chloride.				
Dichloromonofluoromethane	75–43–4	1000	4200	
1,1-Dichloro-1-nitroethane	594–72–9	(C)10	(C)60	
1,2-Dichloropropane; see Propylene dichloride.				
Dichlorotetrafluoroethane	76–14–2	1000	7000	
Dichlorvos (DDVP)	62–73–7		1	X
Dicyclopentadienyl iron	102–54–5			
Total dust			15	
Respirable fraction			5	

TABLE Z-1.—LIMITS FOR AIR CONTAMINANTS—Continued

Substance	CAS No. (c)	ppm (a) [1]	mg/m³ (b) [1]	Skin designation
Dieldrin	60-57-1		0.25	X
Diethylamine	109-89-7	25	75	
2-Diethylaminoethanol	100-37-8	10	50	X
Diethyl ether; see Ethyl ether.				
Difluorodibromomethane	75-61-6	100	860	
Diglycidyl ether (DGE)	2238-07-5	(C)0.5	(C)2.8	
Dihydroxybenzene; see Hydroquinone.				
Diisobutyl ketone	108-83-8	50	290	
Diisopropylamine	108-18-9	5	20	X
4-Dimethylaminoazobenzene; see 1910.1015	60-11-7			
Dimethoxymethane; see Methylal.				
Dimethyl acetamide	127-19-5	10	35	X
Dimethylamine	124-40-3	10	18	
Dimethylaminobenzene; see Xylidine.				
Dimethylaniline (N,N-Dimethylaniline)	121-69-7	5	25	X
Dimethylbenzene; see Xylene.				
Dimethyl-1,2-dibromo-2,2-dichloroethyl phosphate	300-76-5		3	
Dimethylformamide	68-12-2	10	30	X
2,6-Dimethyl-4-heptanone; see Diisobutyl ketone.				
1,1-Dimethylhydrazine	57-14-7	0.5	1	X
Dimethylphthalate	131-11-3		5	
Dimethyl sulfate	77-78-1	1	5	X
Dinitrobenzene (all isomers)			1	X
(ortho)	528-29-0			
(meta)	99-65-0			
(para)	100-25-4			
Dinitro-o-cresol	534-52-1		0.2	X
Dinitrotoluene	25321-14-6		1.5	X
Dioxane (Diethylene dioxide)	123-91-1	100	360	X
Diphenyl (Biphenyl)	92-52-4	0.2	1	
Diphenylmethane diisocyanate; see Methylene bisphenyl isocyanate.				
Dipropylene glycol methyl ether	34590-94-8	100	600	X
Di-sec octyl phthalate (Di-(2-ethylhexyl) phthalate)	117-81-7		5	
Emery	12415-34-8			
Total dust			15	
Respirable fraction			5	
Endosulfan	115-29-7		0.1	X
Endrin	72-20-8		0.1	X
Epichlorohydrin	106-89-8	5	19	X
EPN	2104-64-5		0.5	X
1,2-Epoxypropane; see Propylene oxide.				
2,3-Epoxy-1-propanol; see Glycidol.				
Ethanethiol; see Ethyl mercaptan.				
Ethanolamine	141-43-5	3	6	
2-Ethoxyethanol (Cellosolve)	110-80-5	200	740	X
2-Ethoxyethyl acetate (Cellosolve acetate)	111-15-9	100	540	X
Ethyl acetate	141-78-6	400	1400	
Ethyl acrylate	140-88-5	25	100	X
Ethyl alcohol (Ethanol)	64-17-5	1000	1900	
Ethylamine	75-04-7	10	18	
Ethyl amyl ketone (5-Methyl-3-heptanone)	541-85-5	25	130	
Ethyl benzene	100-41-4	100	435	
Ethyl bromide	74-96-4	200	890	
Ethyl butyl ketone (3-Heptanone)	106-35-4	50	230	
Ethyl chloride	75-00-3	1000	2600	
Ethyl ether	60-29-7	400	1200	
Ethyl formate	109-94-4	100	300	
Ethyl mercaptan	75-08-1	(C)10	(C)25	
Ethyl silicate	78-10-4	100	850	
Ethylene chlorohydrin	107-07-3	5	16	X
Ethylenediamine	107-15-3	10	25	
Ethylene dibromide	106-93-4		(2)	
Ethylene dichloride (1,2-Dichloroethane)	107-06-2		(2)	
Ethylene glycol dinitrate	628-96-6	(C)0.2	(C)1	X
Ethylene glycol methyl acetate; see Methyl cellosolve acetate.				
Ethyleneimine; see 1910.1012	151-56-4			
Ethylene oxide; see 1910.1047	75-21-8			
Ethylidene chloride; see 1,1-Dichloroethane.				
N-Ethylmorpholine	100-74-3	20	94	X

TABLE Z–1.—LIMITS FOR AIR CONTAMINANTS—Continued

Substance	CAS No. (c)	ppm (a) [1]	mg/m³ (b) [1]	Skin designation
Ferbam	14484–64–1			
Total dust			15	
Ferrovanadium dust	12604–58–9		1	
Fluorides (as F)	(4)		2.5	
Fluorine	7782–41–4	0.1	0.2	
Fluorotrichloromethane (Trichlorofluoromethane)	75–69–4	1000	5600	
Formaldehyde; see 1910.1048	50–00–0			
Formic acid	64–18–6	5	9	
Furfural	98–01–1	5	20	X
Furfuryl alcohol	98–00–0	50	200	
Grain dust (oat, wheat, barley)			10	
Glycerin (mist)	56–81–5			
Total dust			15	
Respirable fraction			5	
Glycidol	556–52–5	50	150	
Glycol monoethyl ether; see 2-Ethoxyethanol.				
Graphite, natural, respirable dust	7782–42–5		(3)	
Graphite, synthetic				
Total dust			15	
Respirable fraction			5	
Guthion; see Azinphos methyl.				
Gypsum	13397–24–5			
Total dust			15	
Respirable fraction			5	
Hafnium	7440–58–6		0.5	
Heptachlor	76–44–8		0.5	X
Heptane (n-Heptane)	142–82–5	500	2000	
Hexachloroethane	67–72–1	1	10	X
Hexachloronaphthalene	1335–87–1		0.2	X
n-Hexane	110–54–3	500	1800	
2-Hexanone (Methyl n-butyl ketone)	591–78–6	100	410	
Hexone (Methyl isobutyl ketone)	108–10–1	100	410	
sec-Hexyl acetate	108–84–9	50	300	
Hydrazine	302–01–2	1	1.3	X
Hydrogen bromide	10035–10–6	3	10	
Hydrogen chloride	7647–01–0	(C)5	(C)7	
Hydrogen cyanide	74–90–8	10	11	X
Hydrogen fluoride (as F)	7664–39–3		(2)	
Hydrogen peroxide	7722–84–1	1	1.4	
Hydrogen selenide (as Se)	7783–07–5	0.05	0.2	
Hydrogen sulfide	7783–06–4		(2)	
Hydroquinone	123–31–9		2	
Iodine	7553–56–2	(C)0.1	(C)1	
Iron oxide fume	1309–37–1		10	
Isoamyl acetate	123–92–2	100	525	
Isoamyl alcohol (primary and secondary)	123–51–3	100	360	
Isobutyl acetate	110–19–0	150	700	
Isobutyl alcohol	78–83–1	100	300	
Isophorone	78–59–1	25	140	
Isopropyl acetate	108–21–4	250	950	
Isopropyl alcohol	67–63–0	400	980	
Isopropylamine	75–31–0	5	12	
Isopropyl ether	108–20–3	500	2100	
Isopropyl glycidyl ether (IGE)	4016–14–2	50	240	
Kaolin	1332–58–7			
Total dust			15	
Respirable fraction			5	
Ketene	463–51–4	0.5	0.9	
Lead, inorganic (as Pb); see 1910.1025	7439–92–1			
Limestone	1317–65–3			
Total dust			15	
Respirable fraction			5	
Lindane	58–89–9		0.5	X
Lithium hydride	7580–67–8		0.025	
L.P.G. (Liquefied petroleum gas)	68476–85–7	1000	1800	
Magnesite	546–93–0			
Total dust			15	
Respirable fraction			5	
Magnesium oxide fume	1309–48–4			
Total particulate			15	
Malathion	121–75–5			

TABLE Z–1.—LIMITS FOR AIR CONTAMINANTS—Continued

Substance	CAS No. (c)	ppm (a) [1]	mg/m³ (b) [1]	Skin designation
Total dust			15	X
Maleic anhydride	108–31–6	0.25	1	
Manganese compounds (as Mn)	7439–96–5		(C)5	
Manganese fume (as Mn)	7439–96–5		(C)5	
Marble	1317–65–3			
Total dust			15	
Respirable fraction			5	
Mercury (aryl and inorganic) (as Hg)	7439–97–6		([2])	
Mercury (organo) alkyl compounds (as Hg)	7439–97–6		([2])	
Mercury (vapor) (as Hg)	7439–97–6		([2])	
Mesityl oxide	141–79–7	25	100	
Methanethiol; see Methyl mercaptan.				
Methoxychlor	72–43–5			
Total dust			15	
2-Methoxyethanol (Methyl cellosolve)	109–86–4	25	80	X
2-Methoxyethyl acetate (Methyl cellosolve acetate)	110–49–6	25	120	X
Methyl acetate	79–20–9	200	610	
Methyl acetylene (Propyne)	74–99–7	1000	1650	
Methyl acetylene-propadiene mixture (MAPP)		1000	1800	
Methyl acrylate	96–33–3	10	35	X
Methylal (Dimethoxy-methane)	109–87–5	1000	3100	
Methyl alcohol	67–56–1	200	260	
Methylamine	74–89–5	10	12	
Methyl amyl alcohol; see Methyl isobutyl carbinol.				
Methyl n-amyl ketone	110–43–0	100	465	
Methyl bromide	74–83–9	(C)20	(C)80	X
Methyl butyl ketone; see 2-Hexanone.				
Methyl cellosolve; see 2-Methoxyethanol.				
Methyl cellosolve acetate; see 2-Methoxyethyl acetate.				
Methyl chloride	74–87–3		([2])	
Methyl chloroform (1,1,1-Trichloroethane)	71–55–6	350	1900	
Methylcyclohexane	108–87–2	500	2000	
Methylcyclohexanol	25639–42–3	100	470	
o-Methylcyclohexanone	583–60–8	100	460	X
Methylene chloride	75–09–2		([2])	
Methyl ethyl ketone (MEK); see 2-Butanone.				
Methyl formate	107–31–3	100	250	
Methyl hydrazine (Monomethyl hydrazine)	60–34–4	(C)0.2	(C)0.35	X
Methyl iodide	74–88–4	5	28	X
Methyl isoamyl ketone	110–12–3	100	475	
Methyl isobutyl carbinol	108–11–2	25	100	X
Methyl isobutyl ketone; see Hexone.				
Methyl isocyanate	624–83–9	0.02	0.05	X
Methyl mercaptan	74–93–1	(C)10	(C)20	
Methyl methacrylate	80–62–6	100	410	
Methyl propyl ketone; see 2-Pentanone.				
alpha-Methyl styrene	98–83–9	(C)100	(C)480	
Methylene bisphenyl isocyanate (MDI)	101–68–8	(C)0.02	(C)0.2	
Mica; see Silicates.				
Molybdenum (as Mo)	7439–98–7			
Soluble compounds			5	
Insoluble compounds.				
Total dust			15	
Monomethyl aniline	100–61–8	2	9	X
Monomethyl hydrazine; see Methyl hydrazine.				
Morpholine	110–91–8	20	70	X
Naphtha (Coal tar)	8030–30–6	100	400	
Naphthalene	91–20–3	10	50	
alpha-Naphthylamine; see 1910.1004	134–32–7			
beta-Naphthylamine; see 1910.1009	91–59–8			
Nickel carbonyl (as Ni)	13463–39–3	0.001	0.007	
Nickel, metal and insoluble compounds (as Ni)	7440–02–0		1	
Nickel, soluble compounds (as Ni)	7440–02–0		1	
Nicotine	54–11–5		0.5	X
Nitric acid	7697–37–2	2	5	
Nitric oxide	10102–43–9	25	30	
p-Nitroaniline	100–01–6	1	6	X
Nitrobenzene	98–95–3	1	5	X
p-Nitrochlorobenzene	100–00–5		1	X
4-Nitrodiphenyl; see 1910.1003	92–93–3			
Nitroethane	79–24–3	100	310	

TABLE Z–1.—LIMITS FOR AIR CONTAMINANTS—Continued

Substance	CAS No. (c)	ppm (a) [1]	mg/m³ (b) [1]	Skin designation
Nitrogen dioxide	10102–44–0	(C)5	(C)9	
Nitrogen trifluoride	7783–54–2	10	29	
Nitroglycerin	55–63–0	(C)0.2	(C)2	X
Nitromethane	75–52–5	100	250	
1-Nitropropane	108–03–2	25	90	
2-Nitropropane	79–46–9	25	90	
N-Nitrosodimethylamine; see 1910.1016.				
Nitrotoluene (all isomers)		5	30	X
o-isomer	88–72–2			
m-isomer	99–08–1			
p-isomer	99–99–0			
Nitrotrichloromethane; see Chloropicrin.				
Octachloronaphthalene	2234–13–1		0.1	X
Octane	111–65–9	500	2350	
Oil mist, mineral	8012–95–1		5	
Osmium tetroxide (as Os)	20816–12–0		0.002	
Oxalic acid	144–62–7		1	
Oxygen difluoride	7783–41–7	0.05	0.1	
Ozone	10028–15–6	0.1	0.2	
Paraquat, respirable dust	4685–14–7; 1910–42–5; 2074–50–2		0.5	X
Parathion	56–38–2		0.1	X
Particulates not otherwise regulated (PNOR) [f].				
Total dust			15	
Respirable fraction			5	
PCB; see Chlorodiphenyl (42% and 54% chlorine).				
Pentaborane	19624–22–7	0.005	0.01	
Pentachloronaphthalene	1321–64–8		0.5	X
Pentachlorophenol	87–86–5		0.5	X
Pentaerythritol	115–77–5			
Total dust			15	
Respirable fraction			5	
Pentane	109–66–0	1000	2950	
2-Pentanone (Methyl propyl ketone)	107–87–9	200	700	
Perchloroethylene (Tetrachloroethylene)	127–18–4		[2]	
Perchloromethyl mercaptan	594–42–3	0.1	0.8	
Perchloryl fluoride	7616–94–6	3	13.5	
Perlite	93763–70–3			
Total dust			15	
Respirable fraction			5	
Petroleum distillates (Naphtha) (Rubber Solvent)		500	2000	
Phenol	108–95–2	5	19	X
p-Phenylene diamine	106–50–3		0.1	X
Phenyl ether, vapor	101–84–8	1	7	
Phenyl ether-biphenyl mixture, vapor		1	7	
Phenylethylene; see Styrene.				
Phenyl glycidyl ether (PGE)	122–60–1	10	60	
Phenylhydrazine	100–63–0	5	22	X
Phosdrin (Mevinphos)	7786–34–7		0.1	X
Phosgene (Carbonyl chloride)	75–44–5	0.1	0.4	
Phosphine	7803–51–2	0.3	0.4	
Phosphoric acid	7664–38–2		1	
Phosphorus (yellow)	7723–14–0		0.1	
Phosphorus pentachloride	10026–13–8		1	
Phosphorus pentasulfide	1314–80–3		1	
Phosphorus trichloride	7719–12–2	0.5	3	
Phthalic anhydride	85–44–9	2	12	
Picloram	1918–02–1			
Total dust			15	
Respirable fraction			5	
Picric acid	88–89–1		0.1	X
Pindone (2-Pivalyl-1,3-indandione)	83–26–1		0.1	
Plaster of Paris	26499–65–0			
Total dust			15	
Respirable fraction			5	
Platinum (as Pt)	7440–06–4			
Metal				
Soluble salts			0.002	
Portland cement	65997–15–1			
Total dust			15	

TABLE Z–1.—LIMITS FOR AIR CONTAMINANTS—Continued

Substance	CAS No. (c)	ppm (a) [1]	mg/m³ (b) [1]	Skin designation
Respirable fraction			5	
Propane	74–98–6	1000	1800	
beta-Propriolactone; see 1910.1013	57–57–8			
n-Propyl acetate	109–60–4	200	840	
n-Propyl alcohol	71–23–8	200	500	
n-Propyl nitrate	627–13–4	25	110	
Propylene dichloride	78–87–5	75	350	
Propylene imine	75–55–8	2	5	X
Propylene oxide	75–56–9	100	240	
Propyne; see Methyl acetylene.				
Pyrethrum	8003–34–7		5	
Pyridine	110–86–1	5	15	
Quinone	106–51–4	0.1	0.4	
RDX; see Cyclonite.				
Rhodium (as Rh), metal fume and insoluble compounds	7440–16–6		0.1	
Rhodium (as Rh), soluble compounds	7440–16–6		0.001	
Ronnel	299–84–3		15	
Rotenone	83–79–4		5	
Rouge				
Total dust			15	
Respirable fraction			5	
Selenium compounds (as Se)	7782–49–2		0.2	
Selenium hexafluoride (as Se)	7783–79–1	0.05	0.4	
Silica, amorphous, precipitated and gel	112926–00–8		(3)	
Silica, amorphous, diatomaceous earth, containing less than 1% crystalline silica.	61790–53–2		(3)	
Silica, crystalline cristobalite, respirable dust	14464–46–1		(3)	
Silica, crystalline quartz, respirable dust	14808–60–7		(3)	
Silica, crystalline tripoli (as quartz), respirable dust	1317–95–9		(3)	
Silica, crystalline tridymite, respirable dust	15468–32–3		(3)	
Silica, fused, respirable dust	60676–86–0		(3)	
Silicates (less than 1% crystalline silica)				
Mica (respirable dust)	12001–26–2		(3)	
Soapstone, total dust			(3)	
Soapstone, respirable dust			(3)	
Talc (containing asbestos); use asbestos limit; see 29 CFR 1910.1001.			(3)	
Talc (containing no asbestos), respirable dust	14807–96–6		(3)	
Tremolite, asbestiform; see 1910.1001.				
Silicon	7440–21–3			
Total dust			15	
Respirable fraction			5	
Silicon carbide	409–21–2			
Total dust			15	
Respirable fraction			5	
Silver, metal and soluble compounds (as Ag)	7440–22–4		0.01	
Soapstone; see Silicates.				
Sodium fluoroacetate	62–74–8		0.05	X
Sodium hydroxide	1310–73–2		2	
Starch	9005–25–8			
Total dust			15	
Respirable fraction			5	
Stibine	7803–52–3	0.1	0.5	
Stoddard solvent	8052–41–3	500	2900	
Strychnine	57–24–9		0.15	
Styrene	100–42–5		(2)	
Sucrose	57–50–1			
Total dust			15	
Respirable fraction			5	
Sulfur dioxide	7446–09–5	5	13	
Sulfur hexafluoride	2551–62–4	1000	6000	
Sulfuric acid	7664–93–9		1	
Sulfur monochloride	10025–67–9	1	6	
Sulfur pentafluoride	5714–22–7	0.025	0.25	
Sulfuryl fluoride	2699–79–8	5	20	
Systox; see Demeton.				
2,4,5-T (2,4,5-trichlorophenoxyacetic acid)	93–76–5		10	
Talc; see Silicates.				
Tantalum, metal and oxide dust	7440–25–7		5	
TEDP (Sulfotep)	3689–24–5		0.2	X
Tellurium and compounds (as Te)	13494–80–9		0.1	

TABLE Z–1.—LIMITS FOR AIR CONTAMINANTS—Continued

Substance	CAS No. (c)	ppm (a) [1]	mg/m³ (b) [1]	Skin designation
Tellurium hexafluoride (as Te)	7783–80–4	0.02	0.2	
Temephos	3383–96–8			
Total dust			15	
Respirable fraction			5	
TEPP (Tetraethyl pyrophosphate)	107–49–3		0.05	X
Terphenyls	26140–60–3	(C)1	(C)9	
1,1,1,2-Tetrachloro-2,2-difluoroethane	76–11–9	500	4170	
1,1,2,2-Tetrachloro-1,2-difluoroethane	76–12–0	500	4170	
1,1,2,2-Tetrachloroethane	79–34–5	5	35	X
Tetrachloroethylene; see Perchloroethylene.				
Tetrachloromethane; see Carbon tetrachloride.				
Tetrachloronaphthalene	1335–88–2		2	X
Tetraethyl lead (as Pb)	78–00–2		0.075	X
Tetrahydrofuran	109–99–9	200	590	
Tetramethyl lead (as Pb)	75–74–1		0.075	X
Tetramethyl succinonitrile	3333–52–6	0.5	3	X
Tetranitromethane	509–14–8	1	8	
Tetryl (2,4,6-Trinitrophenylmethylnitramine)	479–45–8		1.5	X
Thallium, soluble compounds (as Tl)	7440–28–0		0.1	X
4,4′-Thiobis (6-tert, Butyl-m-cresol)	96–69–5			
Total dust			15	
Respirable fraction			5	
Thiram	137–26–8		5	
Tin, inorganic compounds (except oxides) (as Sn)	7440–31–5		2	
Tin, organic compounds (as Sn)	7440–31–5		0.1	
Titanium dioxide	13463–67–7			
Total dust			15	
Toluene	108–88–3		(2)	
Toluene-2,4-diisocyanate (TDI)	584–84–9	(C)0.02	(C)0.14	
o-Toluidine	95–53–4	5	22	X
Toxaphene; see Chlorinated camphene.				
Tremolite; see Silicates.				
Tributyl phosphate	126–73–8		5	
1,1,1-Trichloroethane; see Methyl chloroform.				
1,1,2-Trichloroethane	79–00–5	10	45	X
Trichloroethylene	79–01–6		(2)	
Trichloromethane; see Chloroform.				
Trichloronaphthalene	1321–65–9		5	X
1,2,3-Trichloropropane	96–18–4	50	300	
1,1,2-Trichloro-1,2,2-trifluoroethane	76–13–1	1000	7600	
Triethylamine	121–44–8	25	100	
Trifluorobromomethane	75–63–8	1000	6100	
2,4,6-Trinitrophenyl; see Picric acid.				
2,4,6-Trinitrophenylmethylnitramine; see Tetryl.				
2,4,6-Trinitrotoluene (TNT)	118–96–7		1.5	X
Triorthocresyl phosphate	78–30–8		0.1	
Triphenyl phosphate	115–86–6		3	
Turpentine	8006–64–2	100	560	
Uranium (as U)	7440–61–1			
Soluble compounds			0.05	
Insoluble compounds			0.05	
Vanadium	1314–62–1			
Respirable dust (as V_2O_5)			(C)0.5	
Fume (as V_2O_5)			(C)0.1	
Vegetable oil mist				
Total dust			15	
Respirable fraction			5	
Vinyl benzene; see Styrene.				
Vinyl chloride; see 1910.1017	75–01–4			
Vinyl cyanide; see Acrylonitrile.				
Vinyl toluene	25013–15–4	100	480	
Warfarin	81–81–2		0.1	
Xylenes (o-, m-, p-isomers)	1330–20–7	100	435	
Xylidine	1300–73–8	5	25	X
Yttrium	7440–65–5		1	
Zinc chloride fume	7646–85–7		1	
Zinc oxide fume	1314–13–2		5	
Zinc oxide	1314–13–2			
Total dust			15	
Respirable fraction			5	
Zinc stearate	557–05–1			

TABLE Z–1.—LIMITS FOR AIR CONTAMINANTS—Continued

Substance	CAS No. (c)	ppm (a) [1]	mg/m³ (b) [1]	Skin designation
Total dust			15	
Respirable fraction			5	
Zirconium compounds (as Zr)	7440–67–7		5	

[1] The PELs are 8-hour TWAs unless otherwise noted; a (C) designation denotes a ceiling limit. They are to be determined from breathing-zone air samples.

(a) Parts of vapor or gas per million parts of contaminated air by volume at 25 °C and 760 torr.

(b) Milligrams of substance per cubic meter of air. When entry is in this column only, the value is exact; when listed with a ppm entry, it is approximate.

(c) The CAS number is for information only. Enforcement is based on the substance name. For an entry covering more than one metal compound, measured as the metal, the CAS number for the metal is given—not CAS numbers for the individual compounds.

(d) The final benzene standard in 1910.1028 applies to all occupational exposures to benzene except in some circumstances the distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures; for the excepted subsegments, the benzene limits in Table Z–2 apply. See 1910.1028 for specific circumstances.

(e) This 8-hour TWA applies to respirable dust as measured by a vertical elutriator cotton dust sampler or equivalent instrument. The time-weighted average applies to the cottom waste processing operations of waste recycling (sorting, blending, cleaning and willowing) and garnetting. See also 1910.1043 for cotton dust limits applicable to other sectors.

(f) All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z–3.

[2] See Table Z–2.

[3] See Table Z–3.

[4] Varies with compound.

TABLE Z–2

Substance	8-hour time weighted average	Acceptable ceiling concentration	Acceptable maximum peak above the acceptable ceiling concentration for an 8-hr shift	
			Concentration	Maximum duration
Benzene[a] (Z37.40–1969)	10 ppm	25 ppm	50 ppm	10 minutes.
Beryllium and beryllium compounds (Z37.29–1970)	2 µg/m³	5 µg/m³	25 µg/m³	30 minutes.
Cadmium fume[b] (Z37.5–1970)	0.1 mg/m³	0.3 mg/m³		
Cadmium dust[b] (Z37.5–1970)	0.2 mg/m³	0.6 mg/m³.		
Carbon disulfide (Z37.3–1968)	20 ppm	30 ppm	100 ppm	30 minutes.
Carbon tetrachloride (Z37.17–1967)	10 ppm	25 ppm	200 ppm	5 min. in any 4 hrs.
Chromic acid and chromates (Z37.7–1971)		1 mg/10m³.		
Ethylene dibromide (Z37.31–1970)	20 ppm	30 ppm	50 ppm	5 minutes.
Ethylene dichloride (Z37.21–1969)	50 ppm	100 ppm	200 ppm	5 min. in any 3 hrs.
Fluoride as dust (Z37.28–1969)	2.5 mg/m³			
Formaldehyde; see 1910.1048				
Hydrogen fluoride (Z37.28–1969)	3 ppm			
Hydrogen sulfide (Z37.2–1966)		20 ppm	50 ppm	10 mins. once, only if no other meas. exp. occurs.
Mercury (Z37.8–1971)		1 mg/10m³		
Methyl chloride (Z37.18–1969)	100 ppm	200 ppm	300 ppm	5 mins. in any 3 hrs.
Methylene chloride (Z37.23–1969)	500 ppm	1,000 ppm	2,000 ppm	5 mins. in any 2 hrs.
Organo (alkyl) mercury (Z37.30–1969)	0.01 mg/m³	0.04 mg/m³		
Styrene (Z37.15–1969)	100 ppm	200 ppm	600 ppm	5 mins. in any 3 hrs.
Tetrachloroethylene (Z37.22–1967)	100 ppm	200 ppm	300 ppm	5 mins. in any 3 hrs.
Toluene (Z37.12–1967)	200 ppm	300 ppm	500 ppm	10 minutes.
Trichloroethylene (Z37.19–1967)	100 ppm	200 ppm	300 ppm	5 mins. in any 2 hrs.

[a] This standard applies to the industry segments exempt from the 1 ppm 8-hour TWA and 5 ppm STEL of the benzene standard at 1910.1028.

[b] This standard applies to any operations or sectors for which the Cadmium standard, 1910.1027, is stayed or otherwise not in effect.

TABLE Z–3 MINERAL DUSTS

Substance	mppcfa	mg/m³
Silica: Crystalline		
Quartz (Respirable).	250[b]	[e]10 mg/m³
	%SiO_2+5	% SiO_2 + 2
Quartz (Total Dust).	.....	30 mg/m³
		%SiO_2+2
Cristobalite: Use ½ the value calculated from the count or mass formulae for quartz.	.....	
Tridymite: Use ½ the value calculated from the formulae for quartz.	.....	
Amorphous, including natural diatomaceous earth.	20	80 mg/m³
		%SiO_2
Silicates (less than 1% crystalline silica):		
Mica	20	
Soapstone	20	
Talc (not containing asbestos).	[c]20	
Talc (containing asbestos) Use asbestos limit.	.....	

TABLE Z–3 MINERAL DUSTS—Continued

Substance	mppcfa	mg/m³
Tremolite, asbestiform (see 29 CFR 1910.1001).	.....	
Portland cement	50	
Graphite (Natural)	15	
Coal Dust:	.....	
Respirable fraction less than 5% SiO_2.	.....	[e]2.4 mg/m³
		%SiO_2+2
Respirable fraction greater than 5% SiO_2.	[e]10 mg/m³	
	%SiO_2+2	
Inert or Nuisance Dust[d]:		
Respirable fraction	15	5 mg/m³
Total dust	50	15 mg/m³

Note—Conversion factors - mppcf X 35.3 = million particles per cubic meter = particles per c.c.

[a] Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques.

[b] The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.

[c] Containing less than 1% quartz; if 1% quartz or more, use quartz limit.

[d] All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z–1.

[e] Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics:

Aerodynamic diameter (unit density sphere)	Percent passing selector
2	90
2.5	75
3.5	50
5.0	25
10	0

The measurements under this note refer to the use of an AEC (now NRC) instrument. The respirable fraction of coal dust is determined with an MRE; the figure corresponding to that of 2.4 mg/m³ in the table for coal dust is 4.5 mg/m³.

[FR Doc. 93–15292 Filed 6–29–93; 8:45 am]

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federal register

Wednesday
June 30, 1993

Part VI

Department of Education

34 CFR Parts 785, 786 and 787
National Diffusion Network; Rule

DEPARTMENT OF EDUCATION

34 CFR Parts 785, 786 and 787

RIN 1850–AA42

National Diffusion Network

AGENCY: Department of Education.

ACTION: Final regulations.

SUMMARY: The Secretary amends the regulations governing the National Diffusion Network. These amendments establish Program Effectiveness Panel (PEP) review procedures for reapproval of exemplary programs, products, practices, and dissemination processes that have been previously approved by either the Joint Dissemination Review Panel (JDRP) or the PEP.

The National Diffusion Network supports State and local efforts to meet the National Education goals by promoting the nationwide dissemination of exemplary education programs, products, and practices.

EFFECTIVE DATE: These regulations take effect either August 16, 1993 or later if the Congress takes certain adjournments. If you want to know the effective date of these regulations, call or write the Department of Education contact person. A document announcing the effective date will be published in the **Federal Register**.

FOR FURTHER INFORMATION CONTACT: Helen O'Leary, U.S. Department of Education, Office of Educational Research and Improvement, 555 New Jersey Ave., NW., room 510, Washington, DC 20208–5645, telephone (202) 219–2134. Individuals who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1–800–877–8339 between 8 a.m. and 8 p.m., Eastern time, Monday through Friday.

SUPPLEMENTARY INFORMATION: On September 25, 1992, the Secretary published a notice of proposed rulemaking for the National Diffusion Network in the **Federal Register** (57 FR 44408). On pages 44408–44410, the NPRM included a discussion of the major issues including the establishment of separate criteria for the PEP review of a previously approved Developer Demonstrator program, product, or practice and a previously approved Dissemination Process project. Comments on the NPRM have resulted in three minor changes, which are discussed below.

Analysis of Comments and Changes

In response to the Secretary's invitation in the NPRM, one party submitted comments on the proposed regulations. An analysis of the comments and of the changes in the regulations as a result of the comments received on the NPRM follows.

Criteria (§ 786.17)

Comment: § 786.17(d)(1). The commenter suggested that evidence be required about "best dissemination practices" used, that is, a description of the dissemination strategies employed and evidence of their effectiveness.

Discussion: The Department believes that evidence of effectiveness is important, and the purpose of this criterion is to have the PEP consider the amount and types of information provided about the exemplary program, product, or practice (henceforth to be referred to as program) as an indicator of how well the program serves continuing needs in the field. The criterion looks at the effects of the dissemination strategy in terms of the amount and types of information disseminated, the extent of program adoptions, and the number of participants trained.

Change: None.

Comment: § 786.17(d)(1)(i). The commenter suggested that the criterion clarify that the evidence requested is about the information provided to "users" and others such as State Facilitators.

Discussion: The purpose of this subcriterion is to have the PEP consider the extent to which information about the program has been disseminated to potential users and others. The Secretary agrees that this should be clarified.

Change: The Secretary has revised § 786.17(d)(1)(i) to have the PEP consider the extent to which information has been disseminated to potential users and others such as State Facilitators.

Comment: § 786.17(d)(1)(ii). The commenter suggested that the PEP consider the number and types of users, as well as the chief characteristics of users (schools and others), who have adopted the program.

Discussion: The purpose of this section is to gather quantitative and qualitative information concerning program adoptions. The Secretary agrees that additional language would clarify the section.

Change: The Secretary has revised § 786.17(d)(1)(ii) to make it clear that information should be provided about the number and characteristics of adopting sites.

Comment: § 786.17(d)(1)(iii). The commenter suggested that the PEP consider evidence regarding the types of participants and the effects of the training, as well as the number of individuals trained.

Discussion: The purpose of this subcriterion is to have the PEP consider the number of individuals trained to adopt the program as a measure of the program's continuing success in serving educational needs in the field. Qualitative evidence on the adequacy of training would be considered under § 786.17(d)(2) Implementation and Retention. The effects of the training would, if it were a variable in the evaluation design, also be considered under § 786.17(d)(3) Effectiveness.

Change: None.

Comment: § 786.17(d)(3). The commenter suggested that evidence regarding effectiveness be submitted from a "nationally representative sample" of adoption sites.

Discussion: It is impossible to draw "nationally representative samples" of adoption sites. The universe of projects in any one case will not be sufficiently defined nor large enough to warrant drawing samples on a formal statistical basis with acceptable levels of validity and sampling error. The Secretary believes that evidence should be submitted from a variety of sites that are representative of the adoption sites as a whole. The selection of sites would depend on the nature of the project and its evaluation design.

Change: The Secretary has revised § 786.17(d)(3) to require that evidence be submitted from a variety of sites that are representative of the adoption sites as a whole.

Comment: The commenter also suggested that the PEP consider both qualitative and quantitative evidence of effectiveness to make the language in this criterion parallel to the language used in § 786.11(b).

Discussion: The Secretary agrees that the language in § 786.17(d)(3) should parallel the language in § 786.11(b).

Change: The Secretary has revised § 786.17(d)(3) by requiring that the PEP consider both qualitative and quantitative evidence of effectiveness.

Executive Order 12291

These regulations have been reviewed in accordance with Executive Order 12291. They are not classified as major because they do not meet the criteria for major regulations established in the order.

Intergovernmental Review

This program is subject to the requirements of Executive Order 12372 and the regulations in 34 CFR part 79. The objective of the Executive order is to foster an intergovernmental partnership and a strengthened

federalism by relying on processes developed by State and local governments for coordination and review of proposed Federal financial assistance.

In accordance with the order, this document is intended to provide early notification of the Department's specific plans and actions for this program.

Assessment of Educational Impact

In the notice of proposed rulemaking, the Secretary requested comments on whether the proposed regulations would require transmission of information that is being gathered by or is available from any other agency or authority of the United States.

Based on the response to the proposed rules and on its own review, the Department has determined that the regulations in this document do not require transmission of information that is being gathered by or is available from any other agency or authority of the United States.

List of Subjects in 34 CFR Parts 785, 786 and 787

Dissemination, Education, Educational research, Grant programs—education, Reporting and recordkeeping requirements.

(Catalog of Federal Domestic Assistance Number 84.073—National Diffusion Network)

Dated: June 24, 1993.

Richard W. Riley,

Secretary of Education.

The Secretary amends parts 785, 786, and 787 of title 34 of the Code of Federal Regulations as follows:

PART 785—NATIONAL DIFFUSION NETWORK: GENERAL PROVISIONS

1. The authority citation for part 785 continues to read as follows:

Authority: 20 U.S.C. 2962, unless otherwise noted.

2. Section 785.4 is amended by revising paragraph (a)(1) to read as follows:

§ 785.4 What regulations apply?

(a) * * *

(1) The Education Department General Administrative Regulations (EDGAR) in 34 CFR Part 74 (Administration of Grants to Institutions of Higher Education, Hospitals, and Nonprofit Organizations), Part 75 (Direct Grant Programs)—except § 75.650 (Participation of students enrolled in private schools), Part 77 (Definitions that Apply to Department Regulations), Part 79 (Intergovernmental Review of Department of Education Programs and Activities), Part 80 (Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments), Part 81 (General Education Provisions Act—Enforcement), Part 82 (New Restrictions on Lobbying), Part 85 (Governmentwide Debarment and Suspension (Nonprocurement) and Governmentwide Requirements for Drug-Free Workplace (Grants)), and Part 86 (Drug-Free Schools and Campuses).

* * * * *

PART 786—NATIONAL DIFFUSION NETWORK: DEVELOPER DEMONSTRATOR PROJECTS

3. The authority citation for part 786 continues to read as follows:

Authority: 20 U.S.C. 2962, unless otherwise noted.

4. Section 786.11 is revised to read as follows:

§ 786.11 What must an applicant submit for review by the PEP?

(a) For PEP review of a program, product, or practice that has not been previously approved by the PEP or JDRP, an eligible applicant shall submit to the Secretary qualitative or quantitative evidence, or both, of the effectiveness of the program, product, or practice.

(b) For PEP review of a program, product, or practice that has been previously approved by the PEP or JDRP, an eligible applicant shall submit to the Secretary qualitative and quantitative evidence of dissemination, implementation, and continued effective results of the program, product, or practice.

(Authority: 20 U.S.C. 2962)

5. Section 786.12 is amended by revising the heading and paragraph (a) to read as follows:

§ 786.12 How does the PEP review a program, product, or practice that has not been previously approved by the PEP or the JDRP?

(a) The PEP reviews each program, product, or practice that has not been previously approved by the PEP or the JDRP for educational effectiveness on the basis of the criteria in paragraph (d) of this section.

* * * * *

6. A new § 786.17 is added to subpart B to read as follows:

§ 786.17 How does the PEP review an exemplary program, product, or practice that has been previously approved by the PEP or the JDRP?

(a) The PEP reviews each program, product, or practice that has been previously approved by the PEP or the JDRP for evidence of its successful dissemination, for evidence of its successful implementation, and for evidence of its educational effectiveness, on the basis of the criteria in paragraph (d) of this section.

(b) The PEP awards up to 100 points for these criteria.

(c) The maximum score for each criterion is indicated in parentheses following the criterion.

(d) In reviewing each program, product, or practice the PEP determines the following:

(1) *Dissemination.* (25 points) The PEP determines the extent to which the program, product, or practice demonstrates successful performance in serving educational needs in the field, on the basis of evidence of—

(i) The amount and types of information provided about the program, product, or practice to potential users and others, such as State Facilitators;

(ii) The extent to which the program, product, or practice has been adopted, including information about the number and characteristics of adopting sites; and

(iii) The number of participants trained to adopt the program, product, or practice.

(2) *Implementation and retention.* (25 points) The PEP determines the extent to which the program, product, or practice has been successfully implemented and retained by adoption sites on the basis of evidence of—

(i) The extent to which the program, product, or practice has been implemented in adoption sites with reasonable fidelity to the original elements of the program, product, or practice;

(ii) The extent to which the program, product, or practice has been continued, over time, in adoption sites with reasonable fidelity to the original elements;

(iii) The extent of the demonstrated understanding of and commitment to the program, product, or practice by personnel in adoption sites; and

(iv) The institutional commitment to continue the program, product, or practice as evidenced by such actions as the extension of training to additional sites or staff or the commitment of funding for continued implementation.

(3) *Effectiveness.* (50 points) The PEP determines the extent to which the program, product, or practice shows evidence from a variety of adoption sites of continued effective results relative to the original claims of effectiveness made for the program, product, or practice. The PEP considers both qualitative and

quantitative evidence of the effectiveness of the program, product, or practice, if the evidence is logically linked to the substance of the claims and evaluation design originally submitted to the PEP or the JDRP. In addition, the PEP considers whether the group of sites reported on are representative of the adoption sites as a whole.

(Authority: 20 U.S.C. 2962)

7. A new § 786.18 is added to subpart B to read as follows:

§ 786.18 How is PEP reapproval granted?

PEP reapproval is granted if the PEP has given the program, product, or practice a total score of at least 70 points for the criteria in § 786.17.

(Authority: 20 U.S.C. 2962)

8. A new § 786.19 is added to subpart B to read as follows:

§ 786.19 How long does PEP reapproval last?

PEP reapproval remains in effect for six years from the date of reapproval.

(Authority: 20 U.S.C. 2962)

PART 787—NATIONAL DIFFUSION NETWORK: DISSEMINATION PROCESS PROJECTS

9. The authority citation for part 787 continues to read as follows:

Authority: 20 U.S.C. 2962, unless otherwise noted.

10. Section 787.2 is revised to read as follows:

§ 787.2 Who is eligible for an award?

(a) *New awards.* Any public or nonprofit private agency, organization, or institution that has in operation a dissemination process that has current Program Effectiveness Panel (PEP) approval may apply for a new Dissemination Process grant.

(b) *Continuation awards.* Any Dissemination Process grantee, otherwise eligible to apply for a continuation award, may apply for the continuation award even if either the PEP approval period or the JDRP approval period has expired.

(Authority: 20 U.S.C. 2962)

11. Section 787.11 is revised to read as follows:

§ 787.11 What must an applicant submit for review by the PEP?

(a) For PEP review of a dissemination process that has not been previously approved by the PEP or the JDRP, an eligible applicant shall submit to the Secretary—

(1) A description of its dissemination process;

(2) A description of the procedures and criteria for selecting information, materials, and services to be disseminated and for judging that they are educationally significant; and

(3) A description of the procedures and criteria for evaluating qualitative and quantitative evidence of the effectiveness of information, instructional materials, and services to be disseminated.

(b) For PEP review of a dissemination process that has been previously approved by the PEP or the JDRP, an eligible applicant shall submit to the Secretary—

(1) A description of its dissemination process;

(2) A description of the procedures and criteria for selecting information, materials, and services to be disseminated and for judging that they are educationally significant;

(3) A description of the procedures and criteria for evaluating qualitative and quantitative evidence of the effectiveness of information, instructional materials, and services to be disseminated;

(4) Information about the extent to which information, materials, and services have been disseminated; and

(5) Qualitative and quantitative evidence of the effectiveness of the information, instructional materials, and services that have been disseminated, based on the evaluation procedures and criteria described by the applicant in the previously approved PEP or JDRP submittal.

(Authority: 20 U.S.C. 2962)

12. Section 787.12 is amended by revising the heading and paragraph (a) to read as follows:

§ 787.12 How does the PEP review a Dissemination Process that has not been previously approved by the PEP or the JDRP?

(a) The PEP reviews each dissemination process that has not been previously approved by the PEP or the JDRP for educational effectiveness by examining the procedures and criteria for selecting information and instructional materials to be disseminated and for providing services according to the criteria in paragraph (d) of this section.

* * * * *

13. A new § 787.17 is added to subpart B to read as follows:

§ 787.17 How does the PEP review a Dissemination Process that has been previously approved by the PEP or the JDRP?

(a) The PEP reviews each dissemination process that has been previously approved by the PEP or the JDRP for educational effectiveness by examining the information submitted according to the requirements described in § 787.11(b), on the basis of criteria in paragraph (d) of this section.

(b) The PEP awards up to 100 points for these criteria.

(c) The maximum score for each criterion is indicated in parentheses following the criterion.

(d) In reviewing each dissemination process the PEP determines the following:

(1) *Evaluation design.* (25 points) The PEP determines the extent to which the evaluation design continues to—

(i) Be appropriate for the program;

(ii) Be based on correct interpretation of relevant research and literature;

(iii) Demonstrate that a clear and attributable connection exists between the evidence of an educational effect and the program treatment; and

(iv) Address rival hypotheses.

(2) *Results.* (25 points) The PEP determines the extent to which the results indicate that the process has been and will continue to be particularly effective relative to similar processes.

(3) *Replication.* (50 points) The PEP determines the extent to which—

(i) The information, instructional materials, and services have been used at other sites;

(ii) The information, instructional materials, and services are used at other sites with reasonable fidelity to the original model; and

(iii) The information, instructional materials, and services will continue to be used at other sites with the likelihood of continuing to achieve similar results.

(Authority: 20 U.S.C. 2962)

14. A new § 787.18 is added to subpart B to read as follows:

§ 787.18 How is PEP reapproval granted?

PEP reapproval is granted if the PEP has given the procedures and criteria a score of at least 20 points for the criterion in § 787.17(d)(2) (Results) and a total score of at least 70 points for all the procedures and the criteria in § 787.17.

(Authority: 20 U.S.C. 2962)

15. A new § 787.19 is added to subpart B to read as follows:

§ 787.19 How long does PEP reapproval last?

PEP reapproval remains in effect for six years from the date of reapproval.

(Authority: 20 U.S.C. 2962)

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Reader Aids

Federal Register

Vol. 58, No. 124

Wednesday, June 30, 1993

INFORMATION AND ASSISTANCE

Federal Register

Index, finding aids & general information	202–523–5227
Public inspection desk	523–5215
Corrections to published documents	523–5237
Document drafting information	523–3187
Machine readable documents	523–3447

Code of Federal Regulations

Index, finding aids & general information	523–5227
Printing schedules	523–3419

Laws

Public Laws Update Service (numbers, dates, etc.)	523–6641
Additional information	523–5230

Presidential Documents

Executive orders and proclamations	523–5230
Public Papers of the Presidents	523–5230
Weekly Compilation of Presidential Documents	523–5230

The United States Government Manual

General information	523–5230

Other Services

Data base and machine readable specifications	523–3447
Guide to Record Retention Requirements	523–3187
Legal staff	523–4534
Privacy Act Compilation	523–3187
Public Laws Update Service (PLUS)	523–6641
TDD for the hearing impaired	523–5229

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FEDERAL REGISTER PAGES AND DATES, JUNE

31147–31330.....1
31331–31460.....2
31461–31646.....3
31647–31892.....4
31893–32040.....7
32041–32268.....8
32269–32432.....9
32433–32590.....10
32591–32834.....11
32835–33004.....14
33005–33184.....15
33185–33318.....16
33319–33496.....17
33497–33752.....18
33753–33882.....21
33883–33992.....22
33993–34210.....23
34211–34356.....24
34357–34518.....25
34519–34680.....28
34681–34862.....29
34863–35356.....30

CFR PARTS AFFECTED DURING JUNE

At the end of each month, the Office of the Federal Register publishes separately a List of CFR Sections Affected (LSA), which lists parts and sections affected by documents published since the revision date of each title.

3 CFR

Proclamations:
6517 (See Proc. 6575).....34855
6544 (See Proc. 6575).....34855
6566.....31325
6567.....31893
6568.....31895
6569.....31897
6570.....32041
6571.....32267
6572.....33185
6573.....33753
6574.....34209
6575.....34855

Executive Orders:
October 9, 1917 (Revoked in part by PLO 6985).....33773
July 2, 1910 (2 orders) (Revoked in part by PLO 6983).....33772
July 2, 1910 (Modified by PLO 6981).....32856
6277 of September 8, 1933 (Revoked in part by PLO 6975).....31475
July 2, 1910 (See PLO 6987).....33599
10582 (See DOL notice of June 1).....31220
12073 (See DOL notice of June 1).....31220
12699 (See REA final rule of June 3 and DOT final rule of June 14).....32438, 32867
12850.....31327
12851.....33183

Administrative Orders:

Memorandums:
June 25, 1991 (Superseded by EO 12851).....33183
June 23, 1993.....34519
June 25, 1993.....34861

Presidential Determinations:
No. 93–21 of May 12, 1993.....31461
No. 93–22 of May 19, 1993.....31463
No. 92–23 of May 28, 1993.....31329
No. 93–24 of May 31, 1993.....32269
No. 93–25 of June 2, 1993.....33005
No. 93–26 of June 3, 1993.....33007

5 CFR

Ch. XXXIII.....33319
294.....32043
351.....32046
531.....33497
532.....32273, 33499
550.....32048, 32273, 33497, 33501
591.....32273, 33501
831.....32051
843.....32051
890.....33009
1201.....31234
1633.....31331
2641.....33755

7 CFR

301.....34681
354.....32433
401.....33506, 33507
406.....33507
415.....33507
422.....33507
905.....31465, 33756
907.....33010, 33187
908.....33010, 33187
911.....33753
915.....33753, 34683, 34684
916.....33883
917.....32591, 33883
925.....34688
926.....33012
927.....34689
928.....33759
932.....33013
945.....33014
946.....32592, 33016
947.....33018, 33760
948.....33019, 33762, 34691
953.....34692
958.....32594
981.....33021, 34694
982.....32595
985.....32596
989.....32598
993.....32003
997.....34863
998.....32600, 34865
999.....33320
1139.....32434
1220.....32436
1250.....34696
1421.....33884
1755.....32749
1792.....32438
1927.....34868
1980.....34302

Proposed Rules:
28.....32454
54.....32616
58.....34933, 34937
75.....32617

319.....32456
457.....32458
792.....33029
920.....33035, 34940
945.....33037
958.....34944
1001.....33347
1002.....33347
1004.....33347, 34725
1005.....33347
1007.....33038, 33347, 34946
1011.....33347
1030.....32464, 33347
1033.....33347
1036.....33039, 33347
1040.....33347
1044.....33347
1046.....33347
1049.....33347
1065.....33347
1068.....33347
1079.....33347
1093.....33347
1094.....33347
1096.....33347
1097.....33347
1098.....33347, 34230
1099.....33347
1106.....33347
1108.....33347
1124.....33347
1126.....32465, 33347
1131.....33347
1135.....33347
1137.....32467
1138.....33347
1205.....32066
1230.....32468

8 CFR

103.....31147

9 CFR

50.....34697
77.....34699
78.....34700
97.....32433
391.....33322

Proposed Rules:

381.....33040

10 CFR

26.....31467
50.....33993
61.....33886
70.....31467
73.....31467

Proposed Rules:

2.....31478, 34726
19.....33042
20.....33570
30.....33042, 33396
32.....33396
35.....33396
40.....33042
50.....33042, 34539, 34947
60.....33042
61.....33042
70.....33042
72.....31478, 33042
150.....33042

12 CFR

327.....31150, 34357
363.....31332
517.....33323
620.....33189
703.....34868
932.....31899
1626.....34870

Proposed Rules:

34.....31878
225.....31878
303.....33050
323.....31878
545.....31878
563.....31878
564.....31878
Ch. VI.....34003
611.....32071
613.....32071
614.....32071
615.....34004
620.....32071
621.....32071
627.....32071
704.....33783
741.....33783

13 CFR

123.....32053

14 CFR

25.....33325
39.....31159, 31160, 31342, 31647, 31649, 31650, 31902, 31904, 32055, 32278, 32281, 32602, 32603, 32606, 32608, 32835, 32836, 33892, 33893, 33895, 33896, 33898, 33901, 33903, 33904, 33905, 33906, 34365, 34366, 34521, 34880
71.....31652, 33907
91.....31640, 32838, 33189
93.....32838
95.....34700
97.....32840, 32842, 34704, 34706
121.....34514
125.....34514
127.....34514
129.....34514
135.....34514
137.....32838
302.....34882

Proposed Rules:

Ch. I.....33783
23.....32034
39.....31347, 31348, 31350, 31352, 31354, 31356, 31481, 31681, 31916, 31917, 31920, 31922, 32469, 32471, 32877, 33574, 33576, 33783, 33920, 34009, 34382, 34383, 34950, 34952, 34955, 34957, 34959
71.....31483, 31484, 31485, 31486, 32313, 33053, 33054, 33878
73.....33223
91.....32244
119.....32248
121.....32248, 33316
125.....32248
127.....32248
135.....32248

15 CFR

776.....33509
785.....33509
786.....33509
799.....32003, 33509, 34211

16 CFR

Proposed Rules:

1500.....34385

17 CFR

1.....31162
17.....33327
18.....33327
156.....31167
211.....32843, 34842
260.....33189

Proposed Rules:

4.....32314

18 CFR

Proposed Rules:

284.....32473

19 CFR

10.....34522
24.....34366
178.....34366

Proposed Rules:

151.....31487
152.....31487

20 CFR

366.....31343
404.....31906
626.....31471
627.....31471
628.....31471
629.....31471
630.....31471
631.....31471
637.....31471

Proposed Rules:

626.....33000
638.....33000

21 CFR

5.....34212
73.....33909
109.....33871
177.....32609
189.....33860
310.....31236
520.....33330
1301.....31171, 31907
1304.....31171, 31907
1308.....34707, 34708

Proposed Rules:

Ch. I.....33690, 34389
101.....33055, 33700, 33715, 33731
103.....34010
129.....34010
165.....34010
184.....34010
606.....34962
610.....34962
1301.....31180

22 CFR

705.....33319

Proposed Rules:

308.....31181

24 CFR

27.....34882
58.....34130
92.....34130
200.....34502
203.....32057
207.....34213
213.....34213
220.....34213
221.....34213
232.....34213
241.....34213
242.....34213
244.....34213

Proposed Rules:

219.....34506
594.....32210
905.....32006
960.....32006
3280.....32316
3282.....32316

26 CFR

1.....33510, 33763, 34885
6a.....33510
301.....31343, 34886
602.....33510, 33763

Proposed Rules:

1.....32317, 32473, 33060, 33986, 34842, 34970
602.....32473

28 CFR

Proposed Rules:

505.....34541

29 CFR

511.....34523
825.....31794, 32611
1910.....34844, 35338, 35306
1926.....34218, 35076, 35306
2676.....33023
2616.....34709
2617.....34709

Proposed Rules:

0.....34542
1910.....31923
1928.....31923

30 CFR

56.....31908
57.....31908
75.....31908, 33996
914.....34218
916.....32847, 33986, 34126
917.....32283
920.....33331, 33910
926.....33553
935.....32611, 33912

Proposed Rules:

218.....33414
250.....33921
701.....34652
773.....34652
774.....34652
778.....34652
843.....34652
913.....32003
917.....32618
920.....33578
935.....33416
938.....31925, 31926
943.....33785

31 CFR

344.....31908
515.....34709

33 CFR

100.....32292, 33024, 33334, 33335, 33336, 34222

117.....31473, 32292, 33191, 33337, 33338
165.....31473, 32293, 32294, 3339, 33765, 34223
Proposed Rules:
100.....31488
165.....32317

34 CFR
73.....32996
655.....32574
656.....32574
657.....32574
658.....32574
660.....32574
661.....32574
669.....32574
671.....32574
785.....35354
786.....35354
787.....35354
Proposed Rules:
610.....32014
643.....32580
648.....33224
649.....33308
668.....32188
776.....32828

36 CFR
242.....31175, 31252
Proposed Rules:
Ch. I.....32878

37 CFR
Proposed Rules:
201.....34544

38 CFR
2.....32442
3.....31909, 32442, 32443, 33766, 34224, 34524
17.....32445
21.....31910, 34368, 34526
Proposed Rules:
4.....33235

39 CFR
111.....31177, 34887
3001.....33996

40 CFR
Ch. I.....34198, 34369
51.....31622, 34903
52.....31622, 31653, 31654, 32057, 33192, 33194, 33196, 33197, 33200, 33201, 33203, 33205, 33340, 33767, 33769, 33914, 34225, 34226, 34227, 34526, 34528, 34529, 34903, 34904, 34906, 34907, 34908, 34911
60.....33025
61.....33025
72.....33769
73.....33769
75.....34126
81.....34532
86.....33207, 34535
117.....35314
131.....31177
180.....32295, 32296, 32297, 32298, 32299, 32300, 32301, 32302, 32303, 33211, 33554, 33770, 33772, 34375, 34376, 34712, 34913, 34914
271.....31344, 31474, 31911, 32655
279.....33341
302.....35314
355.....35314
372.....32304
721.....32228
761.....32060
Proposed Rules:
Ch. I.....31685, 31686, 32474, 32881, 33061, 33578, 34011, 34389
51.....31358, 33790
52.....31928, 31929, 32081, 33578, 33790, 34392, 34394, 34397, 34547
55.....33589
60.....33790
63.....33242
75.....32318
80.....33417
81.....34403
82.....33488
85.....34970
86.....33417, 34013
88.....32474, 33417, 34727
152.....34404
180.....32319, 32320, 32620, 34972, 34973, 34975
185.....32320
192.....32174
228.....32322
260.....34977
261.....34977
264.....34977
265.....34977
270.....34977
300.....34018
302.....34977
372.....32622, 34738
600.....33417
721.....32222, 32628, 33792

42 CFR
50.....33342
414.....34916
Proposed Rules:
59.....34024
412.....34742
413.....34742
482.....34977

43 CFR
20.....32446
Public Land Orders:
5 (Revoked by PLO 6982).....32857
2051 (Revoked in part by PLO 6984).....33772
6960 (Corrected by PLO 6980).....33025
6974.....31655
6975.....31475
6976.....31475
6977.....31655
6978.....31656
6979.....31656
6980.....33025
6981.....32856
6982.....32857
6983.....33772
6984.....33773
6985.....33773
6987.....33999

44 CFR
64.....33555, 33556, 33558
65.....32857, 32859
67.....32861
81.....34919
Proposed Rules:
67.....31929, 32749, 32881

45 CFR
402.....31912
670.....34713
671.....34713
672.....34713

46 CFR
164.....32416

47 CFR
0.....33560
2.....34920
15.....33774
22.....34228
61.....31914
73.....31178, 31657, 31658, 32339, 32340, 32449, 33917, 33918, 33999, 34000, 34537, 34538
74.....34377
76.....32449, 32452, 33560
80.....33343
90.....31345, 31476, 31477, 33212, 34378
Proposed Rules:
Ch. I.....31182, 31686
2.....31183, 34404
15.....31183
19.....34405
22.....31183
61.....31936, 33061
73.....31183, 31184, 31686, 31687, 31688, 32339, 32503, 32504, 33922, 33923, 34025, 34026, 34555, 34556
76.....34980
274.....33923
80.....31185
87.....31185, 34404
90.....33062
99.....31183

48 CFR
201.....32416
206.....32416
207.....32061, 32416
209.....32416
210.....32061
215.....32062, 32416
217.....32416
219.....32416
222.....32416
223.....32416
225.....32416
227.....32416
228.....32416
231.....32416
233.....32416
235.....32416
237.....32416
239.....32416
252.....32062, 32416
253.....32416
801.....31914
905.....32306
915.....32306
933.....32306
942.....32306
952.....32306
970.....32306, 34924
3402.....32614
3409.....32614
Proposed Rules:
515.....32085
536.....32085, 32890
552.....32890
814.....31937
833.....31937
836.....31937
852.....31937
1601.....34769
1602.....34769
1609.....34769
1615.....34769
1632.....34769
1642.....34769
1646.....34769
1652.....34769

49 CFR
41.....32867
106.....33302, 33918
107.....33302, 33918
110.....33302, 33918
130.....33302, 33918
171.....33302, 33918
172.....33302, 33918
173.....33302, 33918
174.....33302, 33918
176.....33302, 33918
178.....33302, 33918
180.....33302, 33918
350.....33775
355.....33775
385.....33775
390.....33775
391.....33775
395.....33775
571.....31658
591.....32614
Proposed Rules:
192.....33064
207.....33593
209.....33595
383.....33874
384.....34344
397.....33418
555.....32091
571.....32504, 32630
1035.....34775
1312.....31490, 32340
1314.....31490

50 CFR
17.....31660, 32308, 33562, 34926
100.....31175, 31252
204.....33565
226.....33212
227.....33219, 33220
282.....33565
285.....32872
611.....33778
625.....31234
630.....32311, 33568
641.....33025
649.....34001
651.....32062, 33028, 33344
661.....31664
663.....31179, 31345
672.....31679, 31680, 32003, 32064, 33345, 33778, 34002, 34380, 34723
675.....32003, 32615, 32874, 34380, 34381, 34724, 34932
Proposed Rules:
17.....32632, 33148, 33606,

34231, 34556
20.....31244, 33158, 35312
21.....31247
215.....32892
216.....31186
222.....31688, 34779
226.....34238
227.....31490, 31688, 33605
228.....33425
285.....32894, 33793, 34981
625.....33243
630.....34981
640.....32639
652.....31938
669.....34982

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Note: No public bills which have become law were received by the Office of the Federal Register for inclusion in today's **List of Public Laws.**

Last List June 15, 1993

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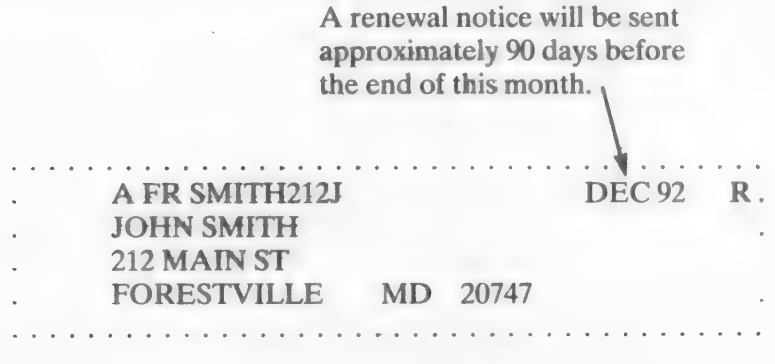

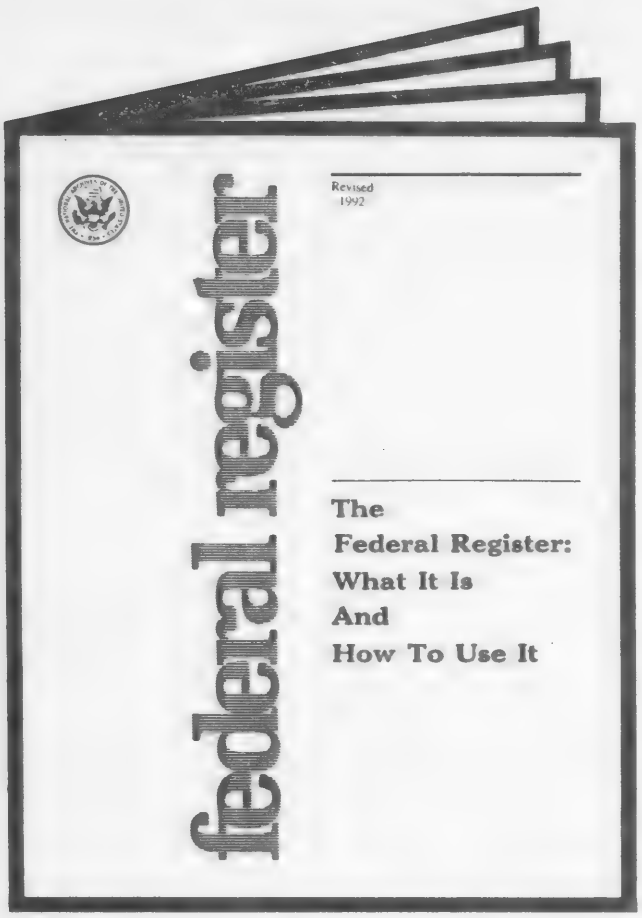

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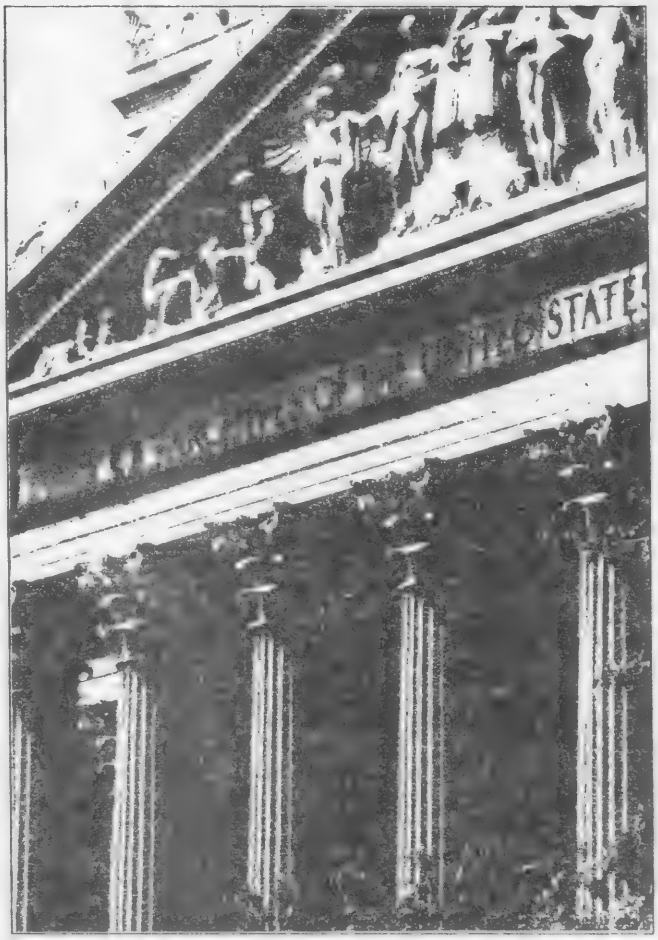

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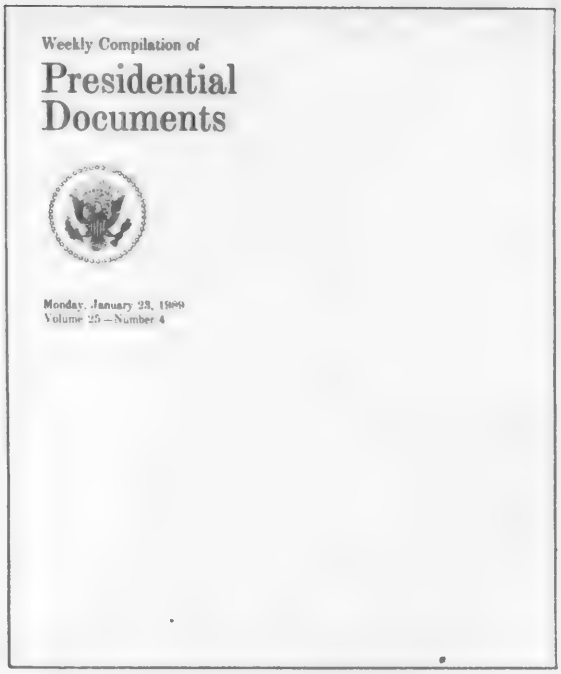

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